ORIGINAL INSTRUCTIONS

OPERATOR'S MANUAL

840CD
880CF
Draper Header

Part number 47918423
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October 2015
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NEW HOLLAND AGRICULTURE

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GENERAL INFORMATION

MAINTENANCE CHART

1 - GENERAL INFORMATION

Note to the owner

This manual contains information concerning the adjustment and maintenance of your new equipment. You have purchased a dependable machine, but only by proper care and operation can you expect to receive the performance and long service built into this equipment. Please have all operators read this manual carefully and keep it available for ready reference.

Your NEW HOLLAND dealer will instruct you in the general operation of your new equipment. (Refer to the 'Delivery Report' at the back of this manual.) Your dealer's staff of factory-trained service technicians will be glad to answer any questions that may arise regarding the operation of your machine. New Holland Top Service is also available. Go to www.newholland.com.

Your NEW HOLLAND dealer carries a complete line of genuine NEW HOLLAND service parts. These parts are manufactured and carefully inspected to insure high quality and accurate fitting of any necessary replacement parts. Be prepared to give your dealer the model and product identification number of your new equipment when ordering parts. Locate these numbers now and record them below. Refer to the 'General Information' section of this manual for the location of the model and product identification numbers of your machine.

PLEASE RECORD THE FOLLOWING INFORMATION

Model _____

Product Identification Number (PIN) _____

Date Purchased _____

Header Width (As Applicable) _____

Engine Model (As Applicable) _____

Engine PIN (As Applicable) _____

This is the safety alert symbol. It is used with and without signal words to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible death or injury.

⚠ WARNING

Illustrations in this manual may show protective shielding open or removed to better illustrate a particular feature or adjustment.
Replace all shields before operating the machine.
Failure to comply could result in death or serious injury.

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IMPROVEMENTS

CNH America LLC is continually striving to improve its products. We reserve the right to make improvements or changes when it becomes practical and possible to do so, without incurring any obligation to make changes or additions to the equipment sold previously.

Intended use

The NEW HOLLAND head is designed for use with NEW HOLLAND combine harvesters as self-propelled units and powered by an on-board diesel engine. The machines are intended to be used for agricultural purposes on cultivated land to harvest cereal crops, small seed crops, maize, soy beans, etc., by cutting or picking up from a swath, threshing and separating the grain from the straw, and temporarily storing it until it is unloaded into vehicles for transport.

The harvesting speed and performance may depend of a number of limitative parameters, such as weather and terrain conditions, and crop variety and maturity. Though the machine is designed to perform in most crops and conditions, there may be a number of combinations of the above parameters, for which there is severe degradation of performance of the machine or systems thereof. If you notice degradation of performance, contact your NEW HOLLAND dealer for assistance. He or she may have useful information for improvements, or a kit may be available to enhance the performance

Prohibited usage

No parts or attachments should be fitted to this machine, which have not been released by NEW HOLLAND. They might affect machine operation, safety of the user or other people, and stability or wear characteristics of the machine. They may also void the homologation approval obtained for your country and compliance with EC directives.

NOTICE: *DO NOT use this machine for any purpose or in any manner other than as described in the manual, decals, or other product safety information provided with the machine. These materials define the machine's intended use.*

Do not use your machine for another purpose than intended by the manufacturer (a list of combinable crops can be found further on in this manual) and within its limits.

Limits of the machine:

- Up/down/side slope.
- Maximum throughput: variable, depending on crop, variety, maturity, humidity, engine power and power transmission.
- Crop flow characteristics: variable, depending of crop, variety, maturity, humidity.
- Maximum harvesting speed: variable, depending of crop, variety, maturity, humidity, grain losses, engine power and power transmission.
- Mobility: variable, soil condition.

Electro-Magnetic Compatibility (EMC)

Interference may arise as a result of add-on equipment that may not necessarily meet the required standards. As such interference can result in serious malfunction of the unit and/or create unsafe situations, you must observe the following:

- The maximum power of emission equipment (radio, telephones, etc.) must not exceed the limits imposed by the national authorities of the country where you use the machine
- The electro-magnetic field generated by the add-on system should not exceed **24 V/m** at any time and at any location in the proximity of electronic components
- The add-on equipment must not interfere with the functioning of the on board electronics

Failure to comply with these rules will render the NEW HOLLAND warranty null and void.

Manual scope

Introduction to this Manual

This manual gives information for use of your NEW HOLLAND machine, as intended and under the conditions foreseen by the manufacturer during normal operation and routine service and maintenance. This manual does not contain all the information related to periodical service, converting and repairs to be carried out by professional service personnel. For some of the latter activities, there may be a need for appropriate facilities, technical skills, and/or tools which are not supplied with the machine.

The manual is divided into sections as outlined in the General Table of Contents Page(s). Refer to the Detail Index at the end of this manual for locating specific items about your NEW HOLLAND machine.

Scope and Required Training Level

This manual gives information for use of your NEW HOLLAND machine, as intended and under the conditions foreseen by the manufacturer during normal operation and routine service and maintenance.

Normal operation consists of use of the NEW HOLLAND machine for the purpose intended by the manufacturer by an operator that is:

- Familiar with the NEW HOLLAND machine and the mounted or towed equipment.
- Complying with the information for operation and safe practices, as specified by the manufacturer in this manual and by the signs on the machine.

Normal operation includes:

- The preparation and storage of the NEW HOLLAND machine
- Swinging components into work position and vice versa
- Adding or removing ballast
- Picking up and setting off mounted or towed equipment
- The adjustment and setting of the NEW HOLLAND machine and equipment for the specific condition of the field and/or the crop.

Routine service and maintenance consists of activities that must be done daily in order to maintain its proper function by an operator that is

- Familiar with NEW HOLLAND machine characteristics
- Complying with the information for routine service and safe practices, as specified by the manufacturer in this manual and by the signs on the NEW HOLLAND machine. Routine service includes activities such as fueling, cleaning, washing, topping up fluid levels, greasing, and replacing consumable articles such as lamp bulbs.

This manual does not contain all the information related to periodical service, converting and repairs to be carried out by NEW HOLLAND professional service personnel. For some of the latter activities, there may be a need for appropriate facilities, technical skills, and/or tools which are not supplied with the NEW HOLLAND machine.

Periodical service consists of activities that must be done at defined intervals:

- By trained personnel familiar with the NEW HOLLAND machine characteristics.
- By trained personnel complying with the information for periodical service and safe practices, as partly specified by the manufacturer in this manual and in other company literature.
- In order to maintain the expected life time of the NEW HOLLAND machine. Periodical service includes activities such as changing oil from the engine, hydraulic circuits or transmission, or other substances or components that need periodical exchange.

Converting consists of activities that must be done:

- By professional service personnel familiar with the NEW HOLLAND machine characteristics
- Complying with the information for converting, as partly specified by the manufacturer in this manual, in assembly instructions, or in other company literature
- In order to rebuild the NEW HOLLAND machine in a configuration which is appropriate for a specific crop or soil condition (e.g., installation of dual wheels etc.)

Repair (and dismantling) consists of activities that must be done:

- By professional service personnel familiar with the NEW HOLLAND machine characteristics
- Complying with the information for repair, as specified by the manufacturer in the NEW HOLLAND dealer's service manual.
- In order to restore the proper function of the NEW HOLLAND machine after a failure or degradation of performance when scrapping or dismantling the NEW HOLLAND machine.

Read this manual before you start the engine or operate this NEW HOLLAND machine. If any information in this manual is not understood, or if you need more information or assistance, contact your NEW HOLLAND dealer.

All persons training to operate, or who will be operating this NEW HOLLAND machine, should be old enough to possess a valid local vehicle operating permit (or other applicable local age requirement) and must have demonstrated the ability to operate and service the NEW HOLLAND machine correctly and safely.

Product Identification Number (PIN)

The Model Number and Product Identification Number are shown on a PIN plate located on the right-hand side back sheet.

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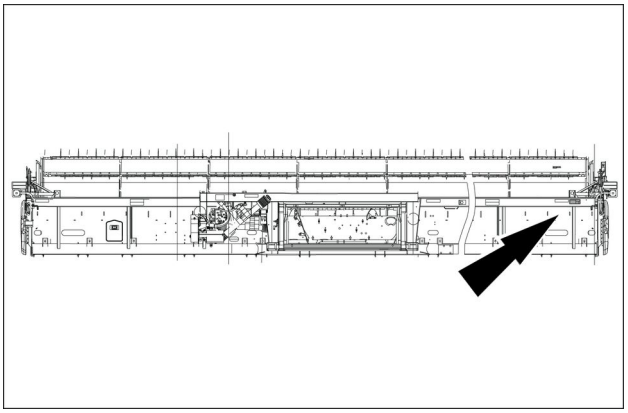

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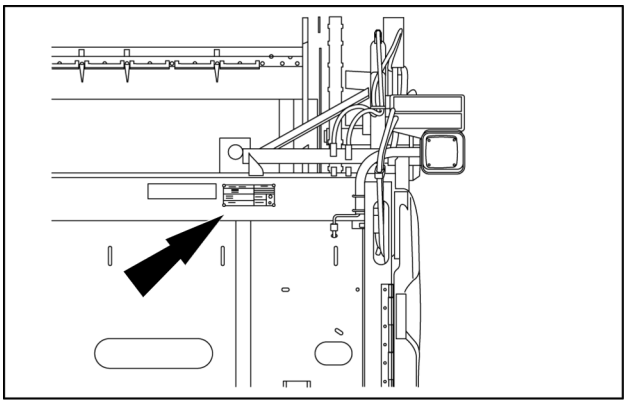

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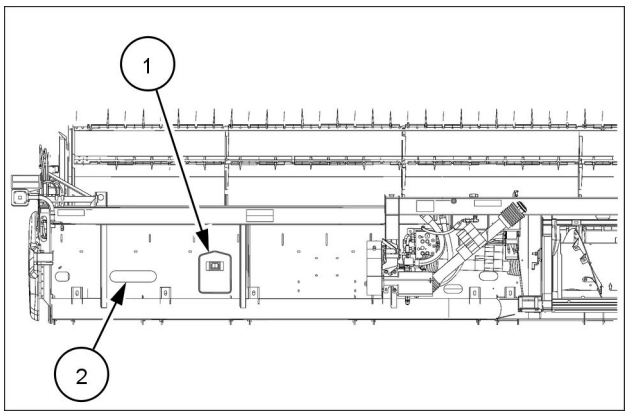
Operator's manual storage on the machine

Keep the operator’s manual in the storage compartment **(1)** located on the left-hand side of the frame to the right of the draper adjuster **(2)**



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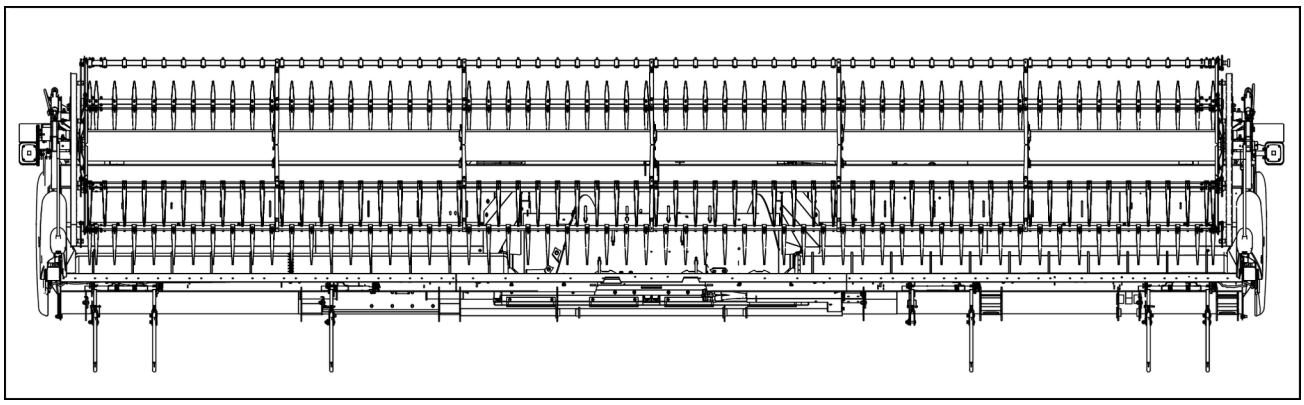
Machine orientation - Machine orientation

To determine Left-Hand (LH) and Right-Hand (RH) stand at the rear of the machine and face the normal direction of travel.



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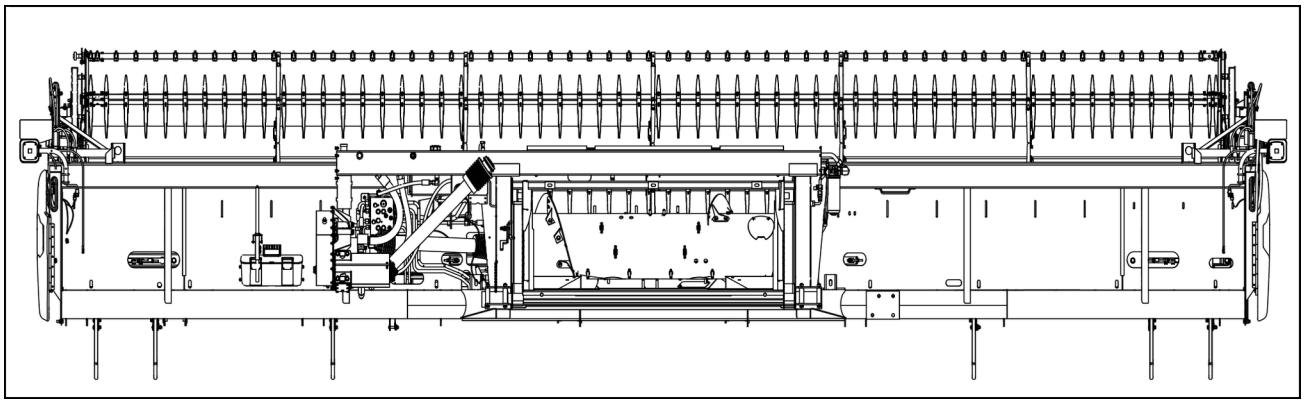
Front



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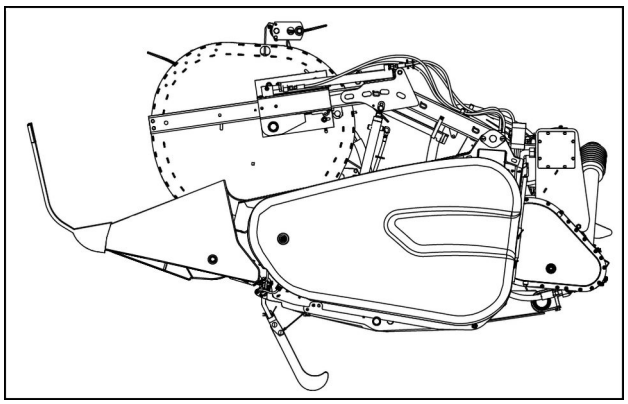
Back



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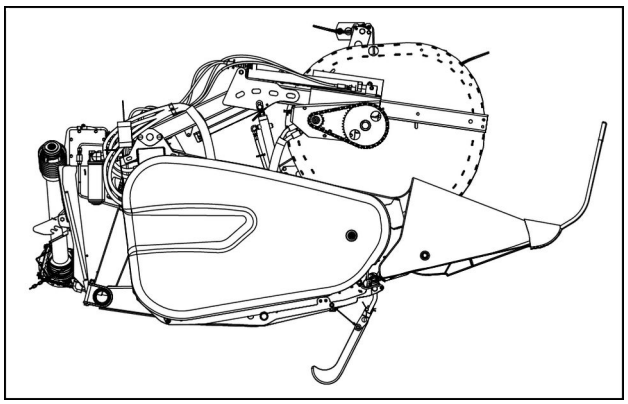
LH side



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RH side

2 - SAFETY INFORMATION

Safety rules and signal word definitions

Personal safety

This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible death or injury.

Throughout this manual you will find the signal words DANGER, WARNING, and CAUTION followed by special instructions. These precautions are intended for the personal safety of you and those working with you.

Read and understand all the safety messages in this manual before you operate or service the machine.

⚠ DANGER indicates a hazardous situation that, if not avoided, will result in death or serious injury.

⚠ WARNING indicates a hazardous situation that, if not avoided, could result in death or serious injury.

⚠ CAUTION indicates a hazardous situation that, if not avoided, could result in minor or moderate injury.

FAILURE TO FOLLOW DANGER, WARNING, AND CAUTION MESSAGES COULD RESULT IN DEATH OR SERIOUS INJURY.

Machine safety

NOTICE: *Notice indicates a situation that, if not avoided, could result in machine or property damage.*

Throughout this manual you will find the signal word Notice followed by special instructions to prevent machine or property damage. The word Notice is used to address practices not related to personal safety.

Information

NOTE: *Note indicates additional information that clarifies steps, procedures, or other information in this manual.*

Throughout this manual you will find the word Note followed by additional information about a step, procedure, or other information in the manual. The word Note is not intended to address personal safety or property damage.

Safety rules

⚠ General safety rules ⚠

Use caution when you operate the machine on slopes. Raised equipment, full tanks and other loads will change the center of gravity of the machine. The machine can tip or roll over when near ditches and embankments or uneven surfaces.

Never permit anyone other than the operator to ride on the machine.

Never operate the machine under the influence of alcohol or drugs, or while you are otherwise impaired.

When digging or using ground-engaging attachments, be aware of buried cables. Contact local utilities to determine the locations of services.

Pay attention to overhead power lines and hanging obstacles. High voltage lines may require significant clearance for safety.

Hydraulic oil or diesel fuel leaking under pressure can penetrate the skin, causing serious injury or infection.

- DO NOT use your hand to check for leaks. Use a piece of cardboard or paper.
- Stop the engine, remove the key, and relieve the pressure before you connect or disconnect fluid lines.
- Make sure that all components are in good condition. Tighten all connections before you start the engine or pressurize the system.
- If hydraulic fluid or diesel fuel penetrates the skin, seek medical attention immediately.
- Continuous long term contact with hydraulic fluid may cause skin cancer. Avoid long term contact and wash the skin promptly with soap and water.

Keep clear of moving parts. Loose clothing, jewelry, watches, long hair, and other loose or hanging items can become entangled in moving parts.

Wear protective equipment when appropriate.

DO NOT attempt to remove material from any part of the machine while it is being operated or while components are in motion.

Make sure that all guards and shields are in good condition and properly installed before you operate the machine. Never operate the machine with shields removed. Always close access doors or panels before you operate the machine.

Dirty or slippery steps, ladders, walkways, and platforms can cause falls. Make sure these surfaces remain clean and clear of debris.

A person or pet within the operating area of a machine can be struck or crushed by the machine or its equipment. DO NOT allow anyone to enter the work area.

Raised equipment and/or loads can fall unexpectedly and crush persons underneath. Never allow anyone to enter the area underneath raised equipment during operation.

Operate controls only when seated in the operator’s seat, except for those controls expressly intended for use from other locations.

Before you leave the machine:

1. Park the machine on a firm, level surface.
2. Put all controls in neutral or park lock position.
3. Engage the parking brake. Use wheel chocks if required.
4. Lower all hydraulic equipment — Implements, header, etc.
5. Turn off the engine and remove the key.

When, due to exceptional circumstances, you would decide to keep the engine running after you leave the operator's station, then you must follow these precautions:

1. Bring the engine to low idle speed.
2. Disengage all drive systems.
3. **⚠ WARNING**

   Some components may continue to run down after disengaging drive systems.
   Make sure all drive systems are fully disengaged.
   Failure to comply could result in death or serious injury.

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   Shift the transmission into neutral.
4. Apply the parking brake.

⚠ General maintenance safety ⚠

Keep the area used for servicing the machine clean and dry. Clean up spilled fluids.

Service the machine on a firm, level surface.

Install guards and shields after you service the machine.

Close all access doors and install all panels after servicing the machine.

Do not attempt to clean, lubricate, clear obstructions, or make adjustments to the machine while it is in motion or while the engine is running.

Always make sure that working area is clear of tools, parts, other persons and pets before you start operating the machine.

Unsupported hydraulic cylinders can lose pressure and drop the equipment, causing a crushing hazard. Do not leave equipment in a raised position while parked or during service, unless the equipment is securely supported.

Jack or lift the machine only at jack or lift points indicated in this manual.

Incorrect towing procedures can cause accidents. When you tow a disabled machine follow the procedure in this manual. Use only rigid tow bars.

Stop the engine, remove the key, and relieve pressure before you connect or disconnect fluid lines.

Stop the engine and remove the key before you connect or disconnect electrical connections.

Scalding can result from incorrect removal of coolant caps. Cooling systems operate under pressure. Hot coolant can spray out if you remove a cap while the system is hot. Allow the system to cool before you remove the cap. When you remove the cap, turn it slowly to allow pressure to escape before you completely remove the cap.

Replace damaged or worn tubes, hoses, electrical wiring, etc.

The engine, transmission, exhaust components, and hydraulic lines may become hot during operation. Take care when you service such components. Allow surfaces to cool before you handle or disconnect hot components. Wear protective equipment when appropriate.

When welding, follow the instructions in the manual. Always disconnect the battery before you weld on the machine. Always wash your hands after you handle battery components.

⚠ Wheels and tires ⚠

Make sure that tires are correctly inflated. Do not exceed any recommended load or pressure. Follow the instructions in the manual for proper tire inflation.

Tires are heavy. Handling tires without proper equipment could cause death or serious injury.

Never weld on a wheel with a tire installed. Always remove the tire completely from the wheel prior to welding.

Always have a qualified tire technician service the tires and wheels. If a tire has lost all pressure, take the tire and wheel to a tire shop or your dealer for service. Explosive separation of the tire can cause serious injury.

DO NOT weld to a wheel or rim until the tire is completely removed. Inflated tires can generate a gas mixture with the air that can be ignited by high temperatures from welding procedures performed on the wheel or rim. Removing the air or loosening the tire on the rim (breaking the bead) will NOT eliminate the hazard. This condition can exist whether tires are inflated or deflated. The tire MUST be completely removed from the wheel or rim prior to welding the wheel or rim.

⚠ Driving on public roads and general transportation safety ⚠

Comply with local laws and regulations.

Use appropriate lighting to meet local regulations.

Make sure that the Slow-Moving Vehicle (SMV) emblem is visible.

Make sure that the brake pedal latch is engaged. You must lock brake pedals together for road travel.

Use safety chains for trailed equipment when safety chains are provided with machine or equipment.

Lift implements and attachments high enough above ground to prevent accidental contact with road.

When you transport equipment or a machine on a transport trailer, make sure that it is properly secured. Be sure the SMV on the equipment or machine is covered while being transported on a trailer.

Be aware of overhead structures or power lines and make sure that the machine and/or attachments can pass safely under.

Travel speed should be such that you maintain complete control and machine stability at all times.

Slow down and signal before turning.

Pull over to allow faster traffic to pass.

Follow correct towing procedure for equipment with or without brakes.

⚠ Fire and explosion prevention ⚠

Fuel or oil that is leaked or spilled on hot surfaces or electrical components can cause a fire.

Crop materials, trash, debris, bird nests, or flammable material can ignite on hot surfaces.

Always have a fire extinguisher on or near the machine.

Make sure that the fire extinguisher(s) is maintained and serviced according to the manufacturer's instructions.

At least once each day and at the end of the day, remove all trash and debris from the machine especially around hot components such as the engine, transmission, exhaust, battery, etc. More frequent cleaning of your machine may be necessary depending on the operating environment and conditions.

At least once each day, remove debris accumulation around moving components such as bearings, pulleys, belts, gears, cleaning fans, etc. More frequent cleaning of your machine may be necessary depending on the operating environment and conditions.

Inspect the electrical system for loose connections and frayed insulation. Repair or replace loose or damaged parts.

Do not store oily rags or other flammable material on the machine.

Do not weld or flame cut any items that contain flammable material. Clean items thoroughly with non-flammable solvents before welding or flame-cutting.

Do not expose the machine to flames, burning brush, or explosives.

Promptly investigate any unusual smells or odors that may occur during operation of the machine.

⚠ Power Take-Off (PTO) ⚠

PTO-driven machinery can cause death or serious injury. Before you work on or near the PTO shaft or service or clear the driven machine, put the PTO lever in the disengage position, stop the engine, and remove the key.

Whenever a PTO is in operation, a guard must be in place to prevent death or injury to the operator or bystanders.

Never use a spline adaptor:

- Match the right tractor PTO spline and speed with the PTO driveshaft provided with an implement. This will assure proper geometry and operating speed.
- Never operate **540 RPM** implements at **1000 RPM**.
- Never operate **1000 RPM** implements at **540 RPM**.
- For correct hitch geometry, refer to the operator's manual for each implement you connect.

⚠ Reflectors and warning lights ⚠

You must use flashing amber warning lights when you operate equipment on public roads.

⚠ Personal Protective Equipment (PPE) ⚠

Wear Personal Protective Equipment (PPE) such as hard hat, eye protection, heavy gloves, hearing protection, protective clothing, etc.

⚠ Do Not Operate tag ⚠

Before you start servicing the machine, attach a 'Do Not Operate' warning tag to the machine in an area that will be visible.

⚠ Hazardous chemicals ⚠

If you are exposed to or come in contact with hazardous chemicals you can be seriously injured. The fluids, lubricants, paints, adhesives, coolant, etc. required for the function of your machine can be hazardous. They may be attractive and harmful to domestic animals as well as humans.

Material Safety Data Sheets (MSDS) provide information about the chemical substances within a product, safe handling and storage procedures, first aid measures, and procedures to take in the event of a spill or accidental release. MSDS are available from your dealer.

Before you service your machine check the MSDS for each lubricant, fluid, etc. used in this machine. This information indicates the associated risks and will help you service the machine safely. Follow the information in the MSDS, and on manufacturer containers, as well as the information in this manual, when you service the machine.

Dispose of all fluids, filters, and containers in an environmentally safe manner according to local laws and regulations. Check with local environmental and recycling centers or your dealer for correct disposal information.

Store fluids and filters in accordance with local laws and regulations. Use only appropriate containers for the storage of chemicals or petrochemical substances.

Keep out of reach or children or other unauthorized persons.

Applied chemicals require additional precautions. Obtain complete information from the manufacturer or distributor of the chemicals before you use them.

⚠ Utility safety ⚠

When digging or using ground-engaging equipment, be aware of buried cables and other services. Contact your local utilities or authorities, as appropriate, to determine the locations of services.

Make sure that the machine has sufficient clearance to pass in all directions. Pay special attention to overhead power lines and hanging obstacles. High voltage lines may require significant clearance for safety. Contact local authorities or utilities to obtain safe clearance distances from high voltage power lines.

Retract raised or extended components, if necessary. Remove or lower radio antennas or other accessories. Should a contact between the machine and an electric power source occur, the following precautions must be taken:

- Stop the machine movement immediately.
- Apply the parking brake, stop the engine, and remove the key.
- Check if you can safely leave the cab or your actual position without contact with electrical wires. If not, stay in your position and call for help. If you can leave your position without touching lines, jump clear of the machine to make sure that you do not make contact with the ground and the machine at the same time.
- Do not permit anyone to touch the machine until power has been shut off to the power lines.

⚠ Electrical storm safety ⚠

Do not operate machine during an electrical storm.

If you are on the ground during an electrical storm, stay away from machinery and equipment. Seek shelter in a permanent, protected structure.

If an electrical storm should strike during operation, remain in the cab. Do not leave the cab or operator's platform. Do not make contact with the ground or objects outside the machine.

⚠ Working at heights ⚠

When the normal use and maintenance of the machine requires you to work at heights:

- Correctly use installed steps, ladders, and railings.
- Never use ladders, steps, or railings while the machine is moving.
- Do not stand on surfaces that are not designated as steps or platforms.

Do not use the machine as a lift, ladder, or platform for working at heights.

⚠ Lifting and overhead loads ⚠

Never use loader buckets, forks, etc. or other lifting, handling, or digging equipment to lift persons.

Do not use raised equipment as a work platform.

Know the full area of movement of the machine and equipment and do not enter or permit anyone to enter the area of movement while the machine is in operation.

Never enter or permit anyone to enter the area underneath raised equipment. Equipment and/or loads can fall unexpectedly and crush persons underneath it.

Do not leave equipment in raised position while parked or during service, unless securely supported. Hydraulic cylinders must be mechanically locked or supported if they are left in a raised position for service or access.

Equipment can block visibility and cause an accident. Do not operate with insufficient visibility.

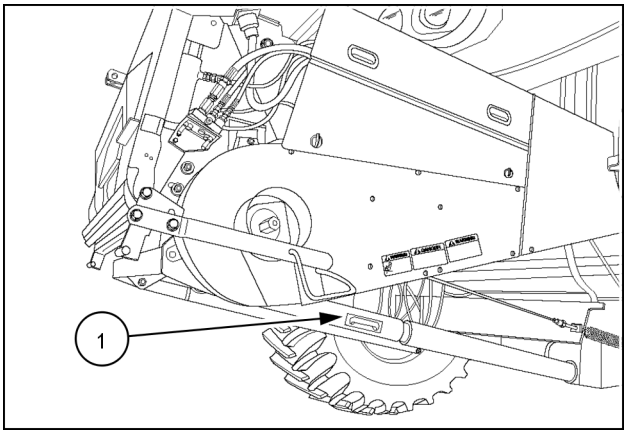
Safety rules - Precautionary statements

A careful operator is the best operator. Most accidents can be avoided by observing certain precautions. To help prevent accidents, read the following precautions before operating this equipment. Equipment should be operated only by those who are responsible and instructed to do so.

Carefully review the procedures given in this manual with all operators. It is important that all operators be familiar with and follow safety precautions.

Carefully study these suggestions, and those included in the combine operator's manual, and insist they be followed by those working with you and for you.

1. Thoroughly read and understand this manual and the combine operator's manual before attempting to operate this equipment.
2. Be sure people and objects are clear of the machine before starting.
3. Only the operator should be on the combine when operating. Never allow anyone to get on or off the combine while the combine is in motion.
4. Keep all shields in place. Never work around the header or combine in loose clothing that could catch on moving objects.
5. Observe the following precautions whenever lubricating the machine or making adjustments:
   - Shut off the combine engine.
   - Disengage all clutching levers or switches.
   - Lower the header to the ground or raise the head completely and lower the combine lift cylinder lockouts **(1)**. This will prevent the header from lowering unexpectedly.
   - Engage the parking brake.



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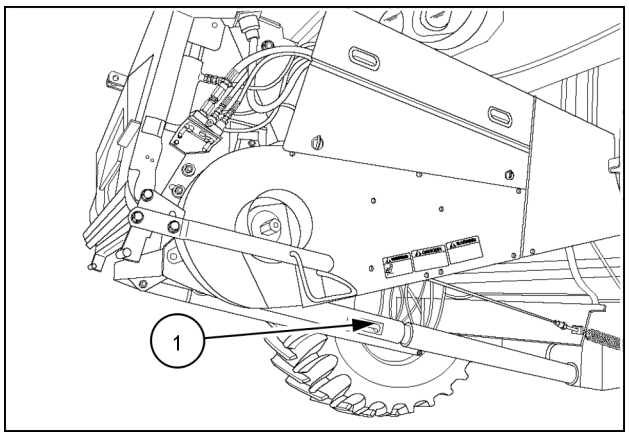
6. Always keep the combine in gear while going downhill.
7. The combine should always be equipped with sufficient rear axle weight for safe operation. Under some field conditions, more weight may be required at the rear axle for adequate stability.
8. Always lower the head, shut off the combine engine, set the parking brake and engage the transmission gears before leaving the operator's platform.
9. If the head should become plugged, stop the combine engine before removing the obstruction.

10. Never disconnect or make any adjustments to the hydraulic system unless the header is lowered to the ground or the lift cylinder lockouts **(1)** are engaged.



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11. Use of auxiliary flashing lights is highly recommended when operating on a public road.

⚠ WARNING

Falling object hazard!
Loss of hydraulic pressure or movement of a control can cause raised equipment to fall. Never work under an implement or attachment supported only by the hydraulic system. Always use suitable equipment to support an implement or attachment that must be serviced in a raised position.
Failure to comply could result in death or serious injury.

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12. Practice safety 365 days a year. Keep all your farm equipment in safe operating condition. Keep all guards and safety devices in place. Always stop the machine before attempting to unplug or service the header.

⚠ WARNING

Avoid injury!
Handle all parts carefully. Do not place your hands or fingers between parts. Use Personal Protective Equipment (PPE) as indicated in this manual, including protective goggles, gloves, and safety footwear.
Failure to comply could result in death or serious injury.

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13. When transporting the unit on a road or highway at night or during the day, use accessory lights and devices to adequately warn the operators of other vehicles. In this regard, check local government regulations. Various safety lights and devices are available from your NEW HOLLAND dealer.

Power Take Off (PTO)

⚠ WARNING

Avoid injury! Always do the following before lubricating, maintaining, or servicing the machine.
1. **Disengage all drives.**
2. **Engage parking brake.**
3. **Lower all attachments to the ground, or raise and engage all safety locks.**
4. **Shut off engine.**
5. **Remove key from key switch.**
6. **Switch off battery key, if installed.**
7. **Wait for all machine movement to stop.**

Failure to comply could result in death or serious injury.

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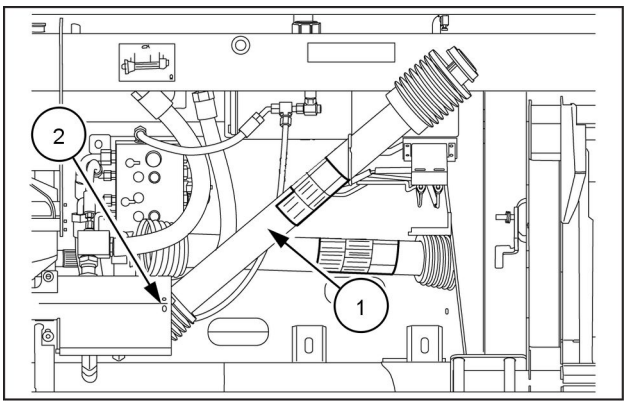
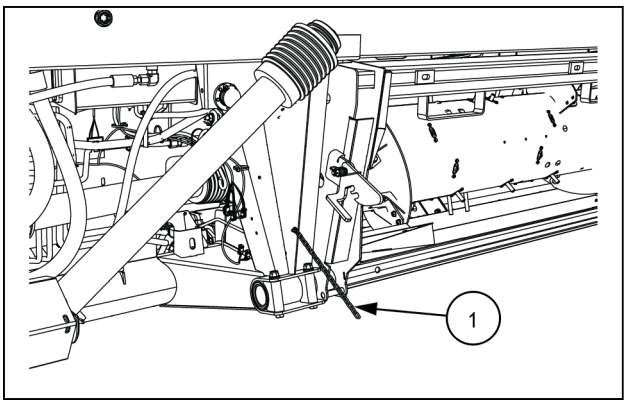
The Power Take-Off (PTO) shaft on your header is equipped with a drive shaft shield **(1)** and chains. The shields protect the operator from the PTO shaft while the shaft is rotating. The shield chains prevent the shield from rotating while the PTO shaft is connected to the combine and turning.

Connect the left hand shield chain to the hole **(2)** provided in the steel PTO slip clutch shield.



83112562 1

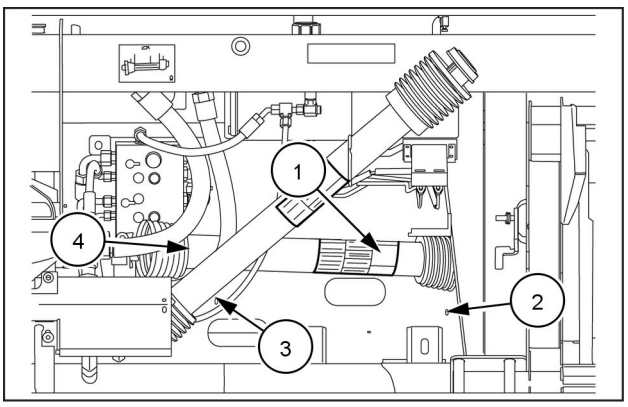
The rear PTO shaft, that connects to the combine, right-hand side chain **(1)** is attached to a chain hanging off of the adapter..



NHIL15AF01829AA 2

The front PTO shaft, that drives the auger, right-hand side chain **(1)** hooks to PTO clip **(2)** on the backside.

Left side chain **(4)** hooks to hole in backsheet **(3)**.



83112562A 3

Access to machine components

⚠ WARNING

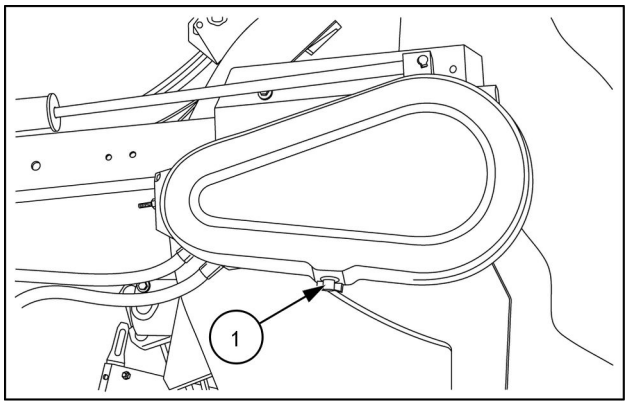
Avoid injury! Always do the following before lubricating, maintaining, or servicing the machine.
1. **Disengage all drives.**
2. **Engage parking brake.**
3. **Lower all attachments to the ground, or raise and engage all safety locks.**
4. **Shut off engine.**
5. **Remove key from key switch.**
6. **Switch off battery key, if installed.**
7. **Wait for all machine movement to stop.**

Failure to comply could result in death or serious injury.

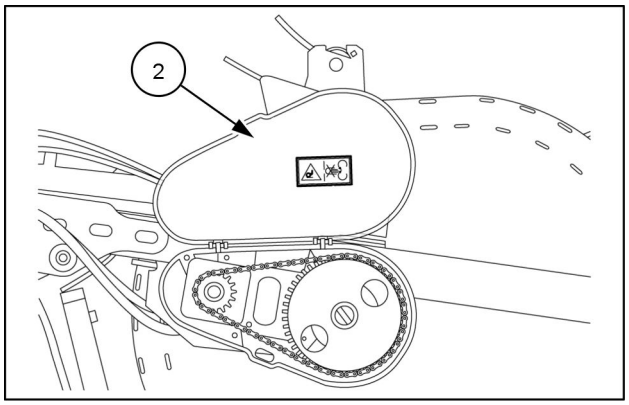
W0047A

To access the reel drive:

1. Lower the header to ground level.
2. Do either of the following:
   - Lower the reel to the lowest position.
   - Raise the reel to the highest position and engage the reel lift cylinder locks. Refer to **Transport locking assembly Cylinder stop - Safety rules - Lift cylinder safety locks**.
3. Turn the release **(1)** at the bottom of the cover, and open the cover **(2)**.



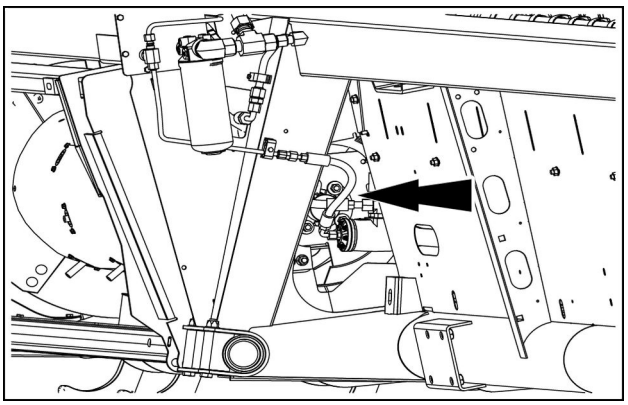
83114758 1



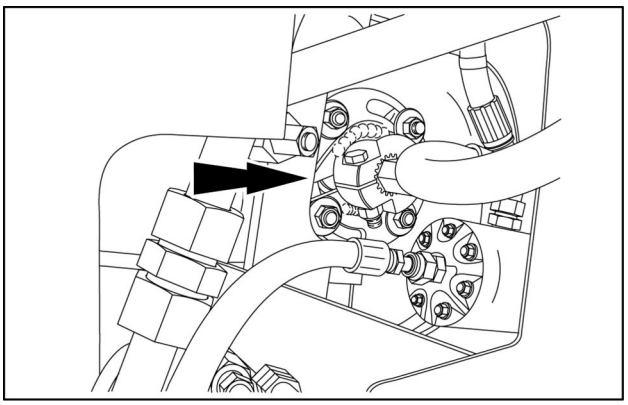
83112560 2

To access the auger finger timing adjustment:

1. Lower the header to ground level.
2. Proceed to the right-hand side of the feeder opening.
3. Access is through the opening between the back sheet and the feeder mount.



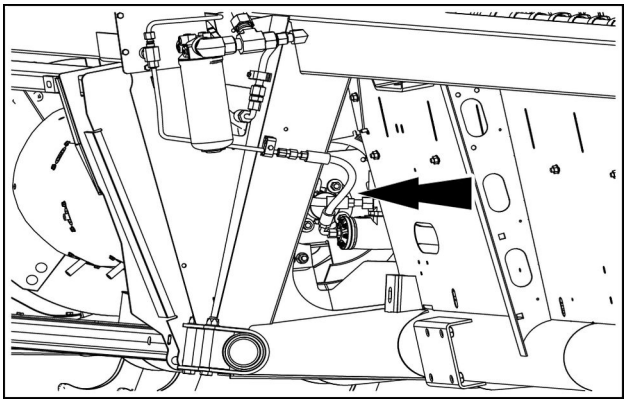
NHIL14GH00507AA 3



83112601 4

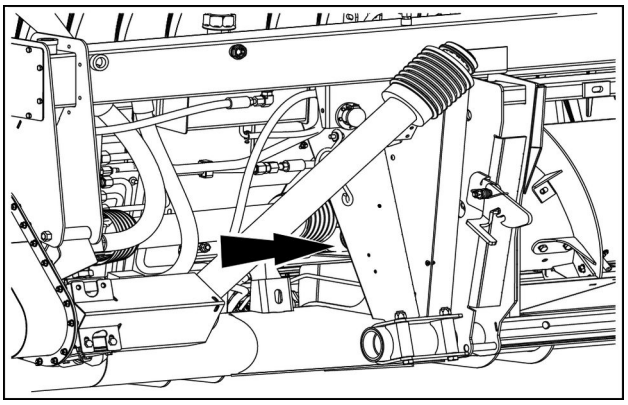
To access the auger height and float adjustment:

1. Lower the header to ground level.
2. Proceed to the right-hand side of the feeder opening for access to the right-hand auger float and height adjustment.



NHIL14GH00507AA 5

3. Proceed to the left-hand side of the feeder opening for the auger float and height adjustment.



NHIL14GH00508AA 6

Ecology and the environment

Soil, air, and water quality is important for all industries and life in general. When legislation does not yet rule the treatment of some of the substances that advanced technology requires, sound judgment should govern the use and disposal of products of a chemical and petrochemical nature.

Familiarize yourself with the relative legislation applicable to your country, and make sure that you understand this legislation. Where no legislation exists, obtain information from suppliers of oils, filters, batteries, fuels, anti-freeze, cleaning agents, etc., with regard to the effect of these substances on man and nature and how to safely store, use, and dispose of these substances. Your NEW HOLLAND dealer can also provide assistance.

Helpful hints

- Avoid the use of cans or other inappropriate pressurized fuel delivery systems to fill tanks. Such delivery systems may cause considerable spillage.
- In general, avoid skin contact with all fuels, oils, acids, solvents, etc. Most of these products contain substances that may be harmful to your health.
- Modern oils contain additives. Do not burn contaminated fuels and or waste oils in ordinary heating systems.
- Avoid spillage when you drain fluids such as used engine coolant mixtures, engine oil, hydraulic fluid, brake fluid, etc. Do not mix drained brake fluids or fuels with lubricants. Store all drained fluids safely until you can dispose of the fluids in a proper way that complies with all local legislation and available resources.
- Do not allow coolant mixtures to get into the soil. Collect and dispose of coolant mixtures properly.
- Do not open the air-conditioning system yourself. It contains gases that should not be released into the atmosphere. Your NEW HOLLAND dealer or air-conditioning specialist has a special extractor for this purpose and can recharge the system properly.
- Repair any leaks or defects in the engine cooling system or hydraulic system immediately.
- Do not increase the pressure in a pressurized circuit as this may lead to a component failure.

Battery recycling

Batteries and electric accumulators contain several substances that can have a harmful effect on the environment if the batteries are not properly recycled after use. Improper disposal of batteries can contaminate the soil, groundwater, and waterways. NEW HOLLAND strongly recommends that you return all used batteries to a NEW HOLLAND dealer, who will dispose of the used batteries or recycle the used batteries properly. In some countries, this is a legal requirement.

NHIL14GEN0038AA 1

Mandatory battery recycling

NOTE: *The following requirements are mandatory in Brazil.*

Batteries are made of lead plates and a sulfuric acid solution. Because batteries contain heavy metals such as lead, CONAMA Resolution 401/2008 requires you to return all used batteries to the battery dealer when you replace any batteries. Do not dispose of batteries in your household garbage.

Points of sale are obliged to:

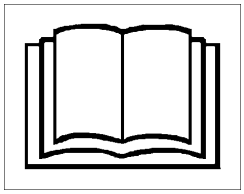
- Accept the return of your used batteries
- Store the returned batteries in a suitable location
- Send the returned batteries to the battery manufacturer for recycling

Safety signs

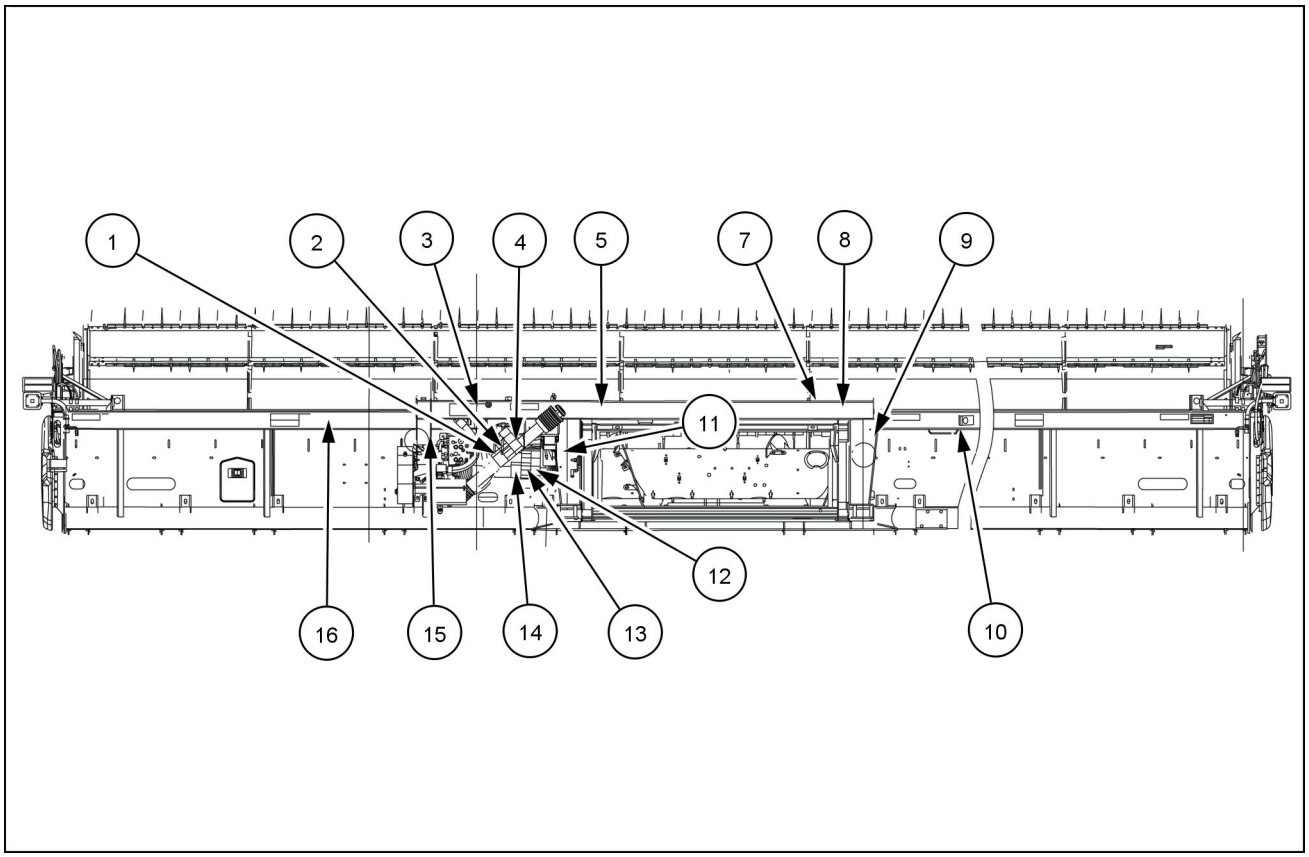
The following safety signs are placed on your machine as a guide for your safety and for those working with you. Walk around the machine and note the content and location of these safety signs before operating your machine.

Keep safety signs clean and legible. Clean safety signs with a soft cloth, water, and a gentle detergent. Do not use solvent, gasoline, or other harsh chemicals. Solvents, gasoline, and other harsh chemicals may damage or remove safety signs.

Replace all safety signs that are damaged, missing, painted over, or illegible. If a safety sign is on a part that is replaced, make sure the safety sign is installed on the new part. See your dealer for replacement safety signs.

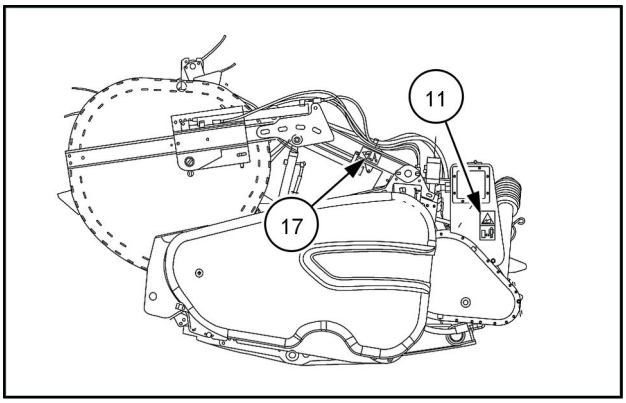


Safety signs that display the “Read Operator’s Manual” symbol are intended to direct the operator to the operator’s manual for further information regarding maintenance, adjustments, or procedures for particular areas of the machine. When a safety sign displays this symbol, refer to the appropriate page of the operator’s manual.



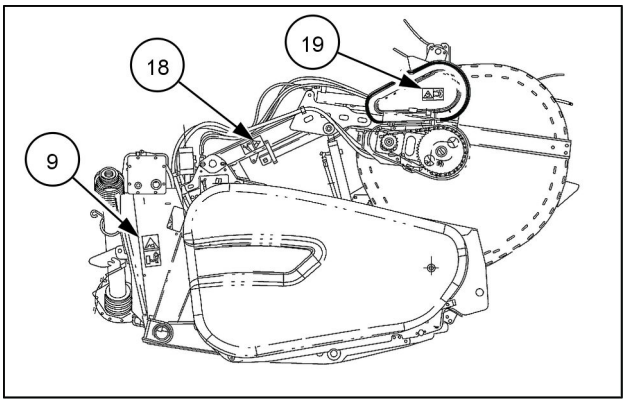
83112557 1

Rear view



83112552 2

Left - hand side

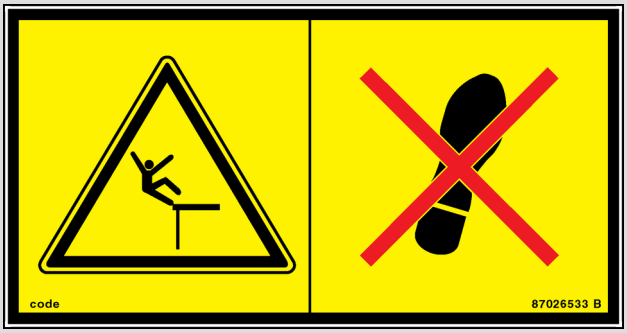


83112553 3

Right - hand side

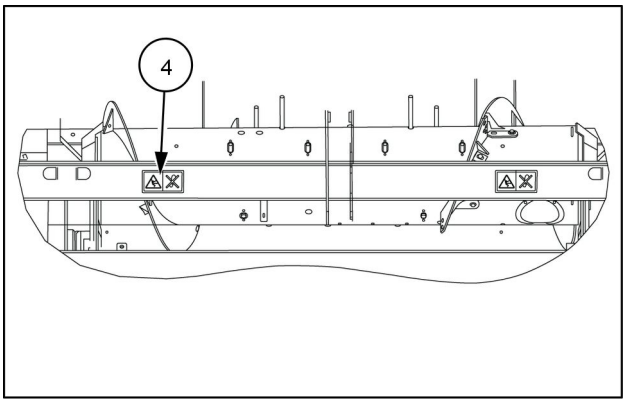
WARNING
Slippery surface.
Do not use this area as a step or platform.
Failure to comply could result in death or serious injury.

Quantity: 2
87026533



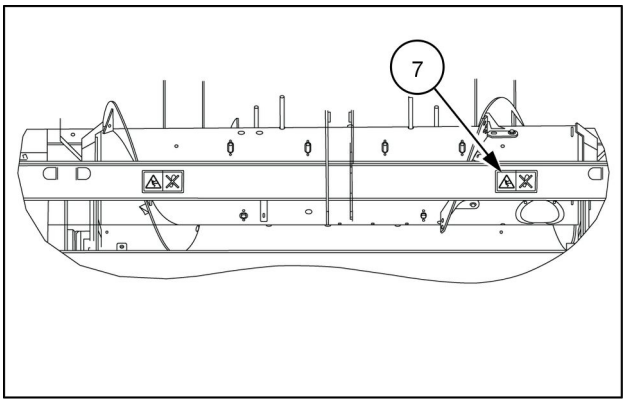
87026533_B 4

(4) Left-Hand (LH) side of feeder opening on the top rail.



93112558 5

(7) Right-Hand (RH) side of feeder opening on the top rail.



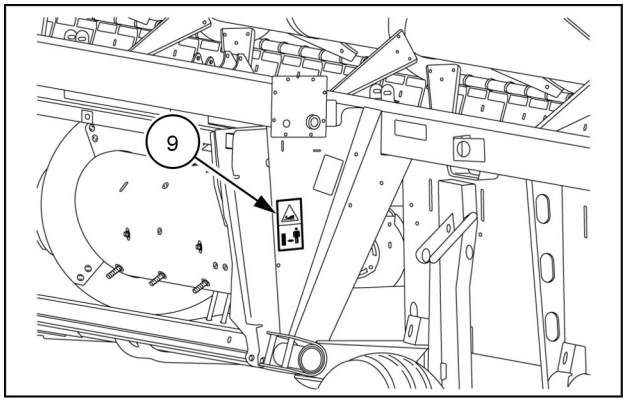
93112558 6

WARNING
Crush Hazard.
Engage safety latch before working under machine.
Failure to comply could cause death or serious injury.

Quantity: 2
84027712

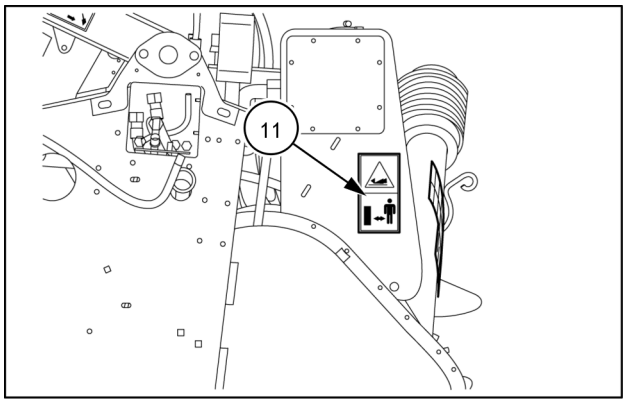
87027712 7

(9) RH side feeder opening.



83112566 8

(11) LH side feeder opening.



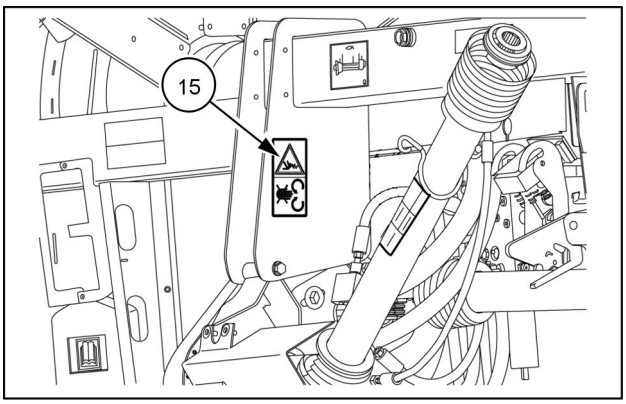
83112563 9

WARNING
Shield is missing.
Stand clear.
Replace or close shield before operating machine.
Failure to comply could cause death or serious injury.

Quantity: 1
86999254

86999254 10

(15) LH side feeder opening.



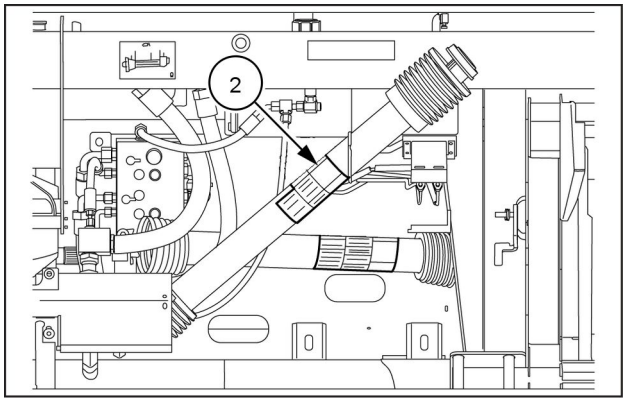
83112561 11

DANGER
Rotating drive line.
Keep all shields and guards in place.
Failure to comply will result in death or serious injury.

Quantity: 2
86520062

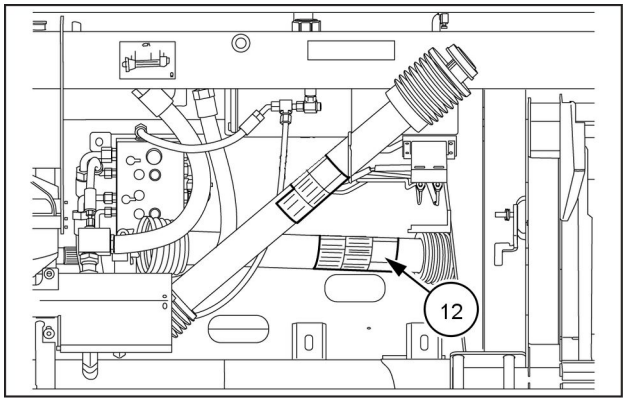
86520062_B 12

(2) On the Power Take-Off (PTO) PTO shaft cover.



83112562 13

(12) On the PTO shaft cover.

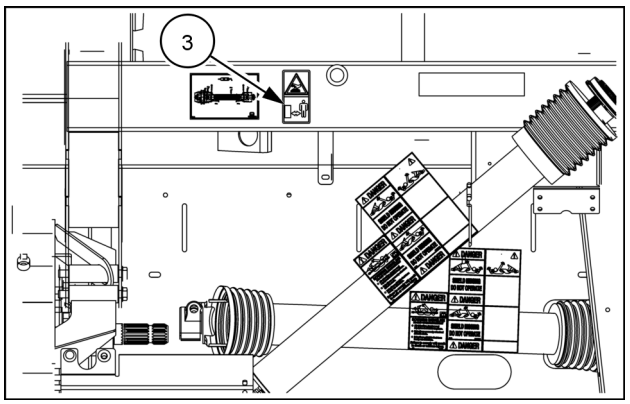


83112562 14

CAUTION
Stay clear of hot surface.
Failure to do so could result in minor or moderate injury.
Quantity: 2
84004742

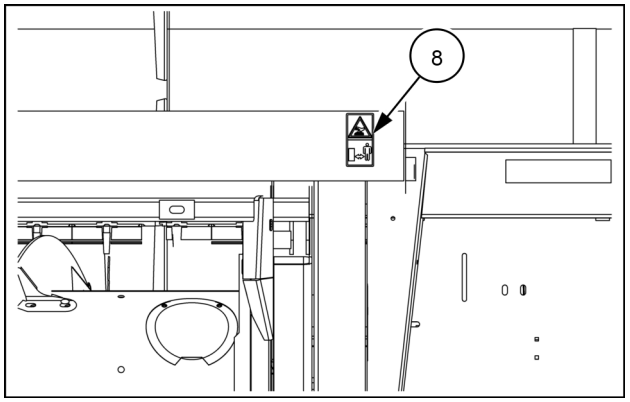
84004742 15

(3) On the hydraulic reservoir.



NHIL12GH00272AA 16

(8) On the hydraulic reservoir.



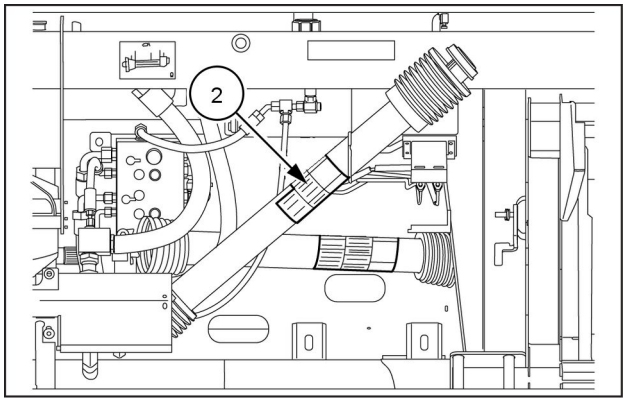
NHIL12GH00273AA 17

DANGER
Shield missing
Do not operate
Keep all shields and guards in place.
Failure to comply will result in death or serious injury.

Quantity: 2
English: 849472
French 849483
Spanish 9801256

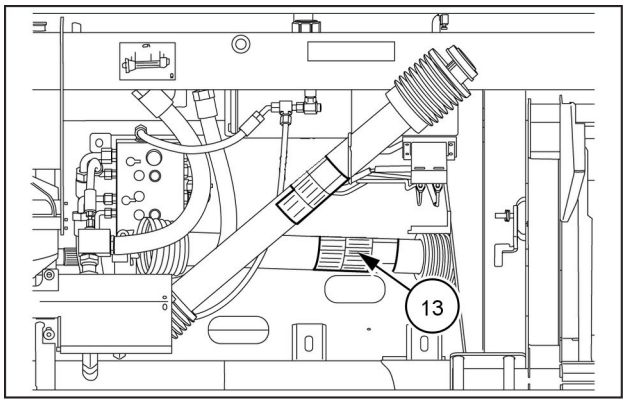
849472_H 18

(2) On the PTO shaft under the PTO plastic cover.



83112562 19

(13) On the PTO shaft under the PTO plastic cover.



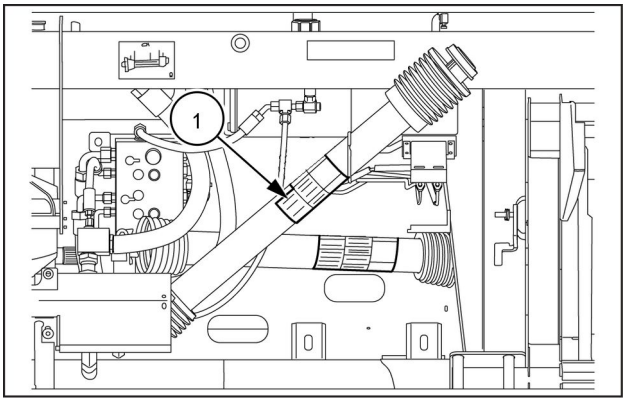
83112562 20

DANGER
Rotating drive line
Do not operate without:
All drive line, tractor and equipment shields in place.
Drive lines securely attached at both ends.
Drive line shields that turn freely on drive line.
Failure to comply will result in death or serious injury.

Quantity: 2
English: 849471
French 849482

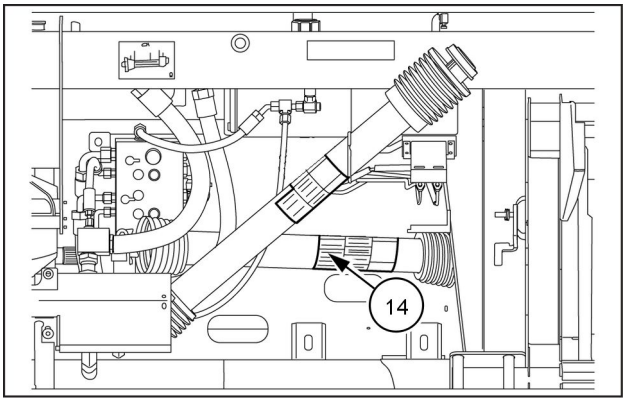
849471_E 21

(1) On the PTO shaft plastic cover.



83112562 22

(14) On the PTO shaft plastic cover.



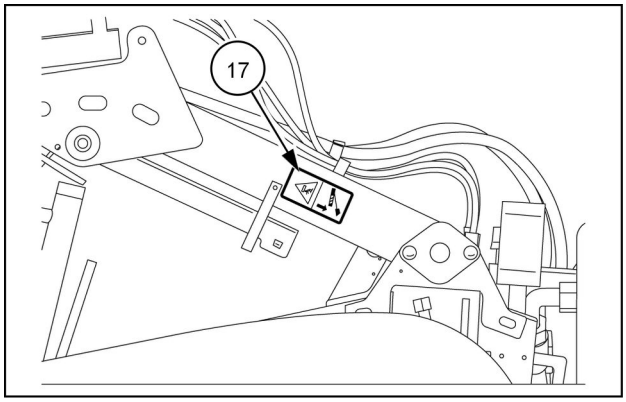
83112562 23

DANGER
Rest header on the ground or set header lift cylinder safety lock before going under unit.
Failure to comply will result in death or serious injury.

Quantity: 2 or 3 dependant on machine layout
84004735

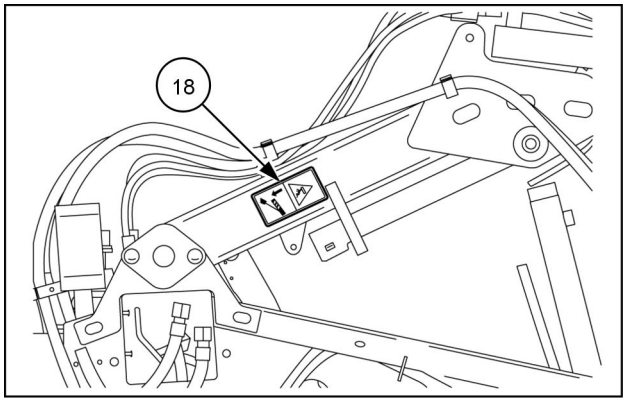
84004735 24

(17) LH side reel arm.



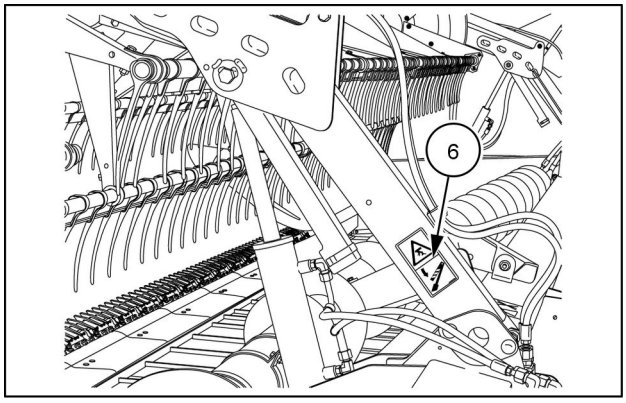
83112567 25

(18) RH side reel arm.



83112568 26

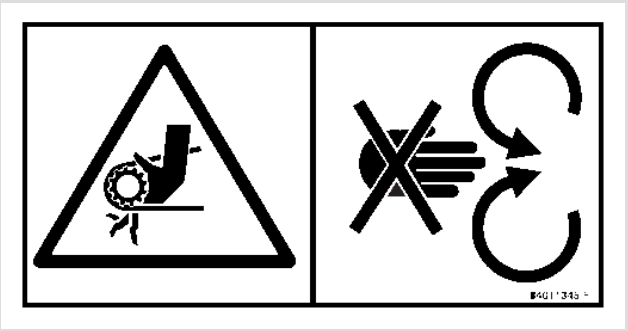
(6) Center reel arm – split reel equipped heads only.



83117560 27

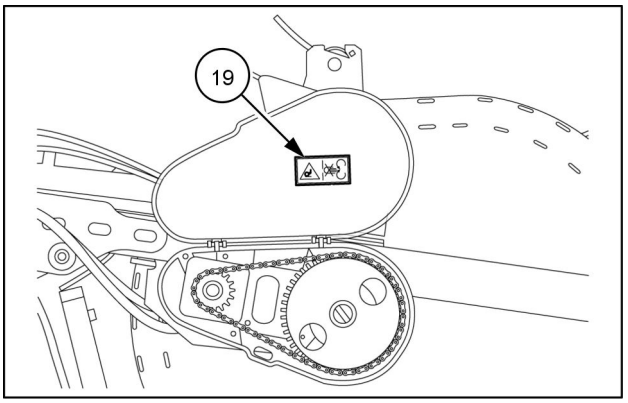
Warning
Shield is missing.
Stand clear.
Replace or close shield before operating machine.
Failure to comply could result in death or serious injury.

Quantity: 1
84011345



84011345 28

(19) Inside the reel drive cover.



83112560 29

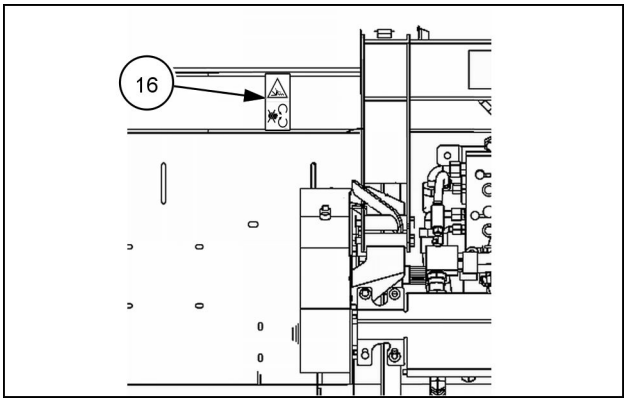
For machines equipped with optional upper cross auger only

DANGER
Rotating auger
Keep away while operating
Failure to comply will result in death or serious injury.

Quantity: 2
84004736

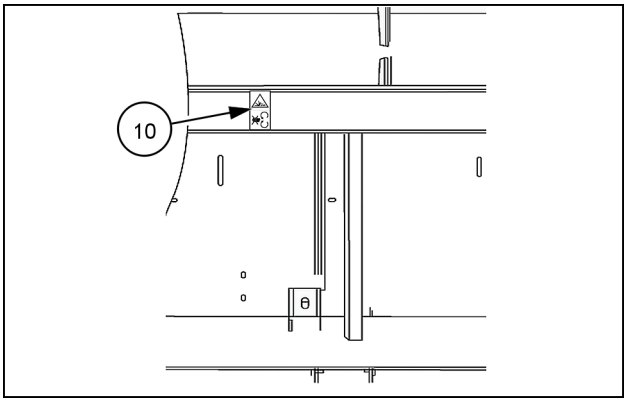
84004736_B 30

(16) LH side of the top beam outside the feeder opening.



23117534 31

(10) RH side of the top beam outside the feeder opening.



23117535 32

Reel lift cylinder lock out

⚠ WARNING

Crushing hazard!
ALWAYS make sure the work area is clear of bystanders and domestic animals before raising or lowering the equipment.
Failure to comply could result in death or serious injury.

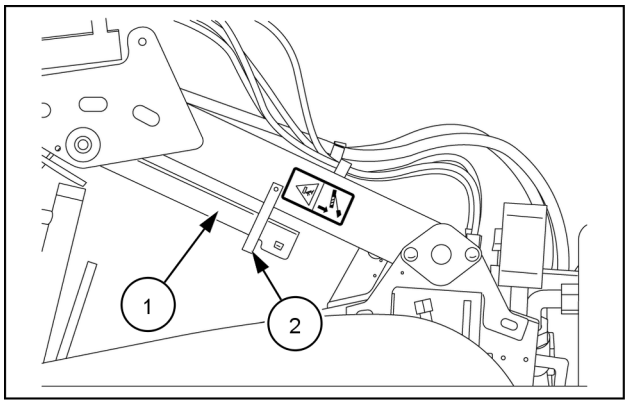
W0123A

Your NEW HOLLAND header is equipped with reel lift cylinder locks **(1)**.

NOTE: *The header must be connected to the combine for operation.*

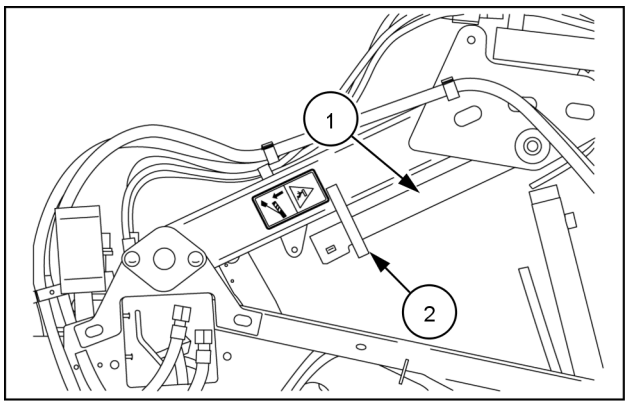
To engage the lift cylinder locks:

1. Use the combine reel lift switch to raise the reel completely.
2. Lift the lock from its storage holder **(2)**.



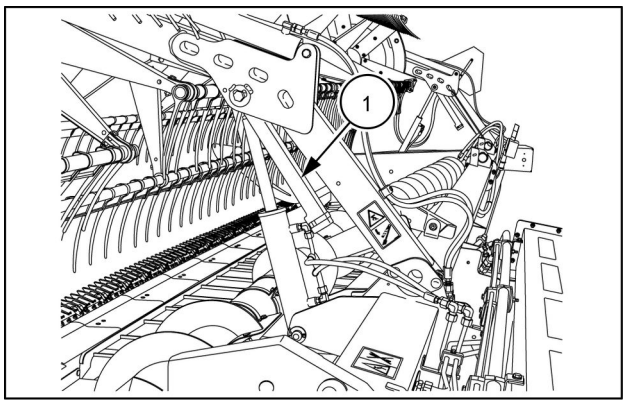
83112567 1

Left-hand side



83112568 2

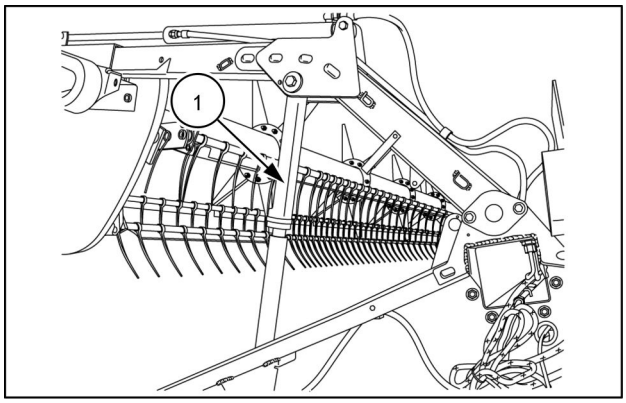
Right-hand side



83117559 3

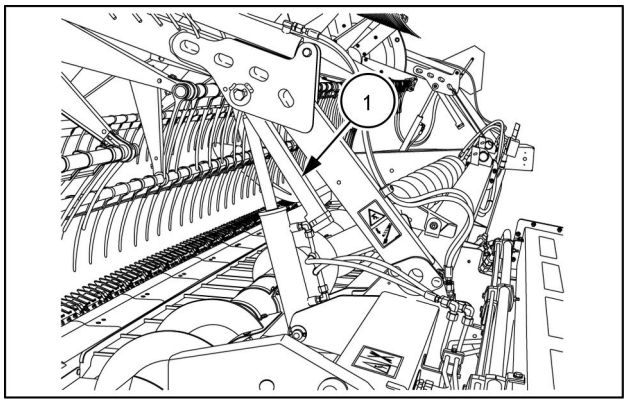
Center, split reel equipped only

3. Swing the lock **(1)** down over the cylinder shaft.



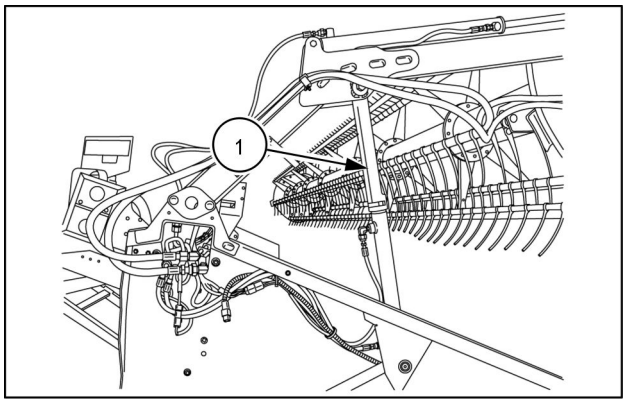
83114725 1 4

Left-hand side



83117559 5

Center, split reel equipped only

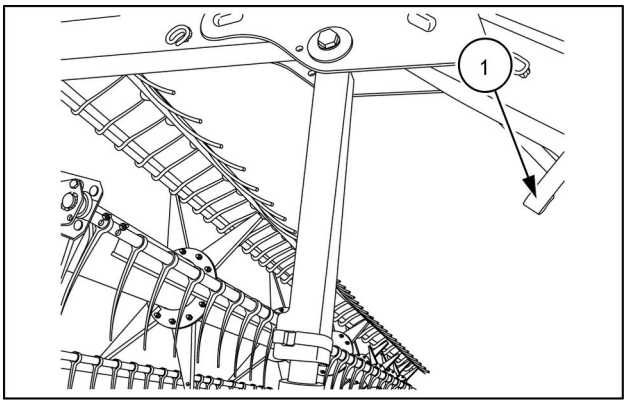


83112595 6

Right-hand side

To store the locks:

1. If the reel has settled so that the locks are against the cylinders:
   - Raise the reel to the highest point.
2. Raise the lock from the cylinder and place the lock on the storage hanger **(1)**.
3. Lower the reel to the desired height.



83114726 7

3 - OPERATING INSTRUCTIONS

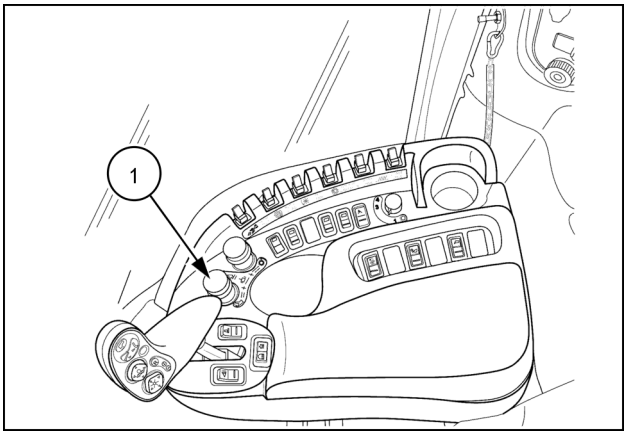
STARTING THE UNIT

Operating the machine in cold weather

In cold weather, the header slip clutch may slip before the header will engage. If this happens, perform the following procedure to engage the header.

Method 1

1. Engage feeder reverser (or slow speed forward, if equipped) for one minute.
2. With engine at idle, engage feeder in forward mode.
3. If clutch continues to slip, run feeder reverser again until forward operation is possible.
4. Once the header engages successfully, slowly increase throttle. Rapid throttle increase may cause clutch to slip during first few minutes of operation.



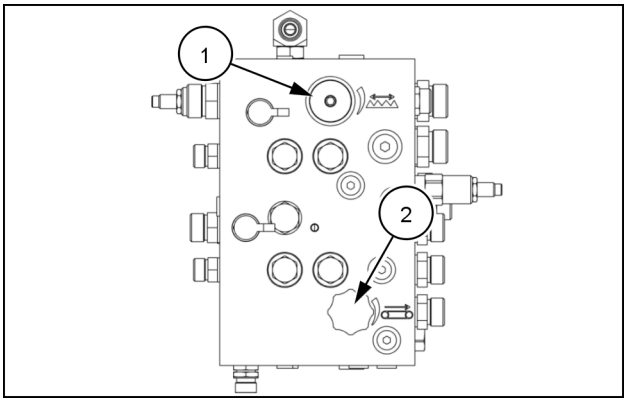
76074504A 1

NEW HOLLAND CR combine

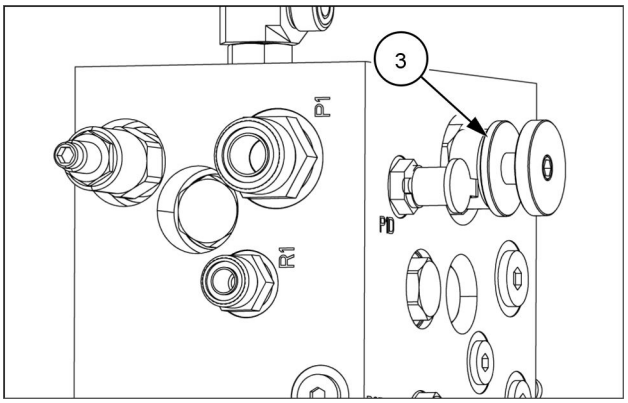
Method 2

1. Disengage knife drive **(1)** and/or side draper belts **(2)** by turning adjustment knob(s) on main valve block fully clockwise.
2. To turn the knife speed adjustment knob:
   A. Loosen jam nut **(3)**.
   B. Turn adjustment knob.

   NOTE: *Record the number of turns each knob requires for reference later.*
3. With engine at idle, engage header forward mode.
4. Run header at low engine speed for two to three minutes to circulate and warm up fluids.
5. Disengage header and engage knife drive and side draper belts by turning adjustment knob(s) counterclockwise to previous position.
6. Lock jam nut **(3)** on knife adjustment knob.
7. With engine at idle, engage header forward mode.
8. Increase throttle slowly during first minutes of operation to prevent clutch slipping.



23118603 2



23118605 3

4 - TRANSPORT OPERATIONS

ROAD TRANSPORT

Road travel

Transporting the header

⚠ WARNING

Collision hazard!
Collision of high speed road traffic and slow moving machines can cause death or personal injury. On roads use transport lighting according to local laws. Make sure the Slow Moving Vehicle (SMV) emblem is visible.
Failure to comply could result in death or serious injury.

W0115A

⚠ DANGER

Tip-over hazard! The weight of crop in the grain tank raises the machine's center of gravity.
The grain tank must be empty when traveling on public roads.
Failure to comply will result in death or serious injury.

D0011A

⚠ WARNING

Loss of control hazard!
Uneven brake force exists on left-hand and right-hand brakes. To ensure uniform brake application and maximum stopping ability, always lock the service brake pedals together when operating the machine in 3rd or 4th gear or before road travel.
Failure to comply could result in death or serious injury.

W0146A

⚠ WARNING

Driving hazard!
Know all rules, regulations, laws, and required safety equipment for transporting or operating this machine on a road or highway. See your dealer to obtain a rotating beacon, backup alarm, Slow Moving Vehicle (SMV) emblem, and other safety equipment.
Failure to comply could result in death or serious injury.

W0154A

Before transporting the header on a public road:

- Weight of the towing vehicle must exceed the header weight by 1½ times.

  Example: A **4536 kg** (**10000 lb**) header requires a tow vehicle weight of no less than **6804 kg** (**15000 lb**)
- The header should not be towed with a vehicle capable of highway speeds.
- Do not exceed **40 km/h** (**25 mph**).
- The towing speed must not exceed the limit determined by local legislation.
- Reduce transport speed to less than **8 km/h** (**5 mph**) when making a turn or over rough or slippery conditions.
- Do not accelerate when completing a turn.
- Check that the electrical system is working correctly, as well as the direction indicator lights.
- When traveling on public roads, always observe highway code regulations.
- Use the rotating amber traffic warning beacons of your combine to indicate the vehicle has abnormal size and is slow-mowing.
- Make sure the lights are functioning properly and the slow moving vehicle emblem and other reflectors are visible and clear of debris.
- When maneuvering the header, always be aware and conscious of its size.
- Never travel at high speed in crowded areas.
- Make sure you have adjusted the reel to it's lowest and most retracted position.

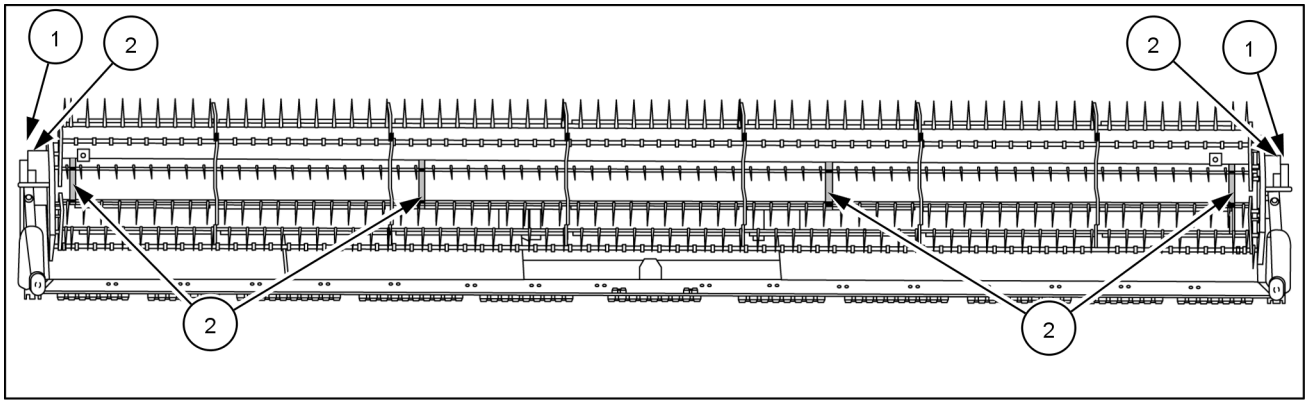
- Check that all pins are properly secured in the transport position at the wheel supports and the hitch.
- Check the tire condition and pressure prior to transport.
- Connect the hitch to a towing vehicle with a proper hitch pin with a spring locking pin.
- Attach the safety hitch chain to the towing vehicle.
- For headers using rigid header height control, lock control arms in storage position before transport.
- Check lug bolt torque.
- Adjust gauge wheels to the storage position.

Road regulations

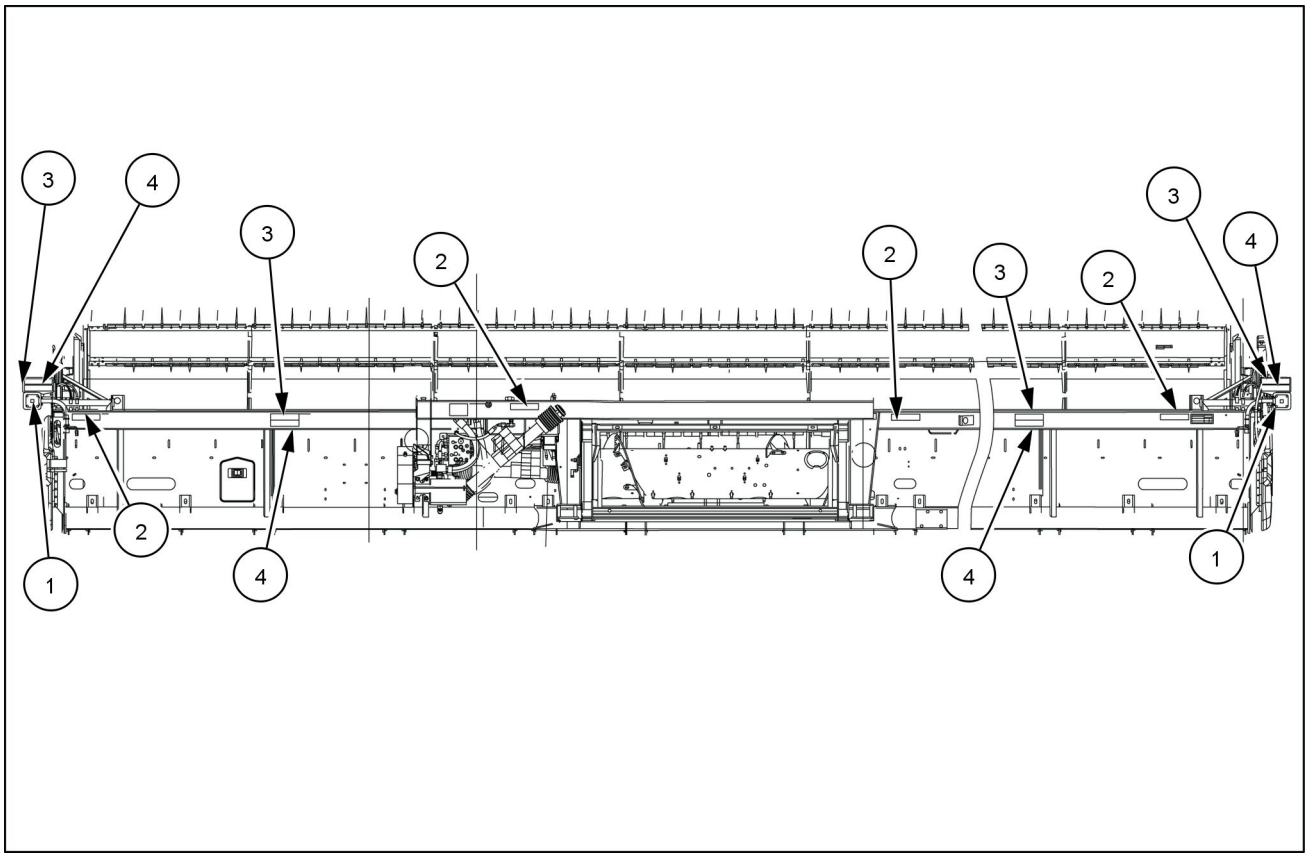
In several countries driving on public roads is not permitted with the grain header fitted to the combine. Check local regulations.

Road travel signs and decals

Your NEW HOLLAND header is equipped with lights and reflective tape to make your header more visible to oncoming and passing traffic.



23114785 1



83112557 2

Rear

(1) Lights used for extra visibility to oncoming and passing vehicles.	**(3)** Tape, red retro reflective. Used for extra visibility to passing vehicles. 86547781
(2) Tape, yellow retro reflective. Used for extra visibility to oncoming vehicles. 86547782	**(4)** Tape, fluorescent orange. Used for extra visibility to passing vehicles. 86547783

PREPARING FOR ROAD TRANSPORT

Transition from field to road mode - If equipped with transport package

⚠ DANGER

Crushing hazard!
Make sure area is clear of all persons before lowering equipment.
Failure to comply will result in death or serious injury.

D0016A

⚠ DANGER

Crushing hazard!
Stay clear of the header when unlatching the header from the feeder. Reach under the feeder to disengage the latches on the bottom of the feeder.
Failure to comply will result in death or serious injury.

D0066A

⚠ WARNING

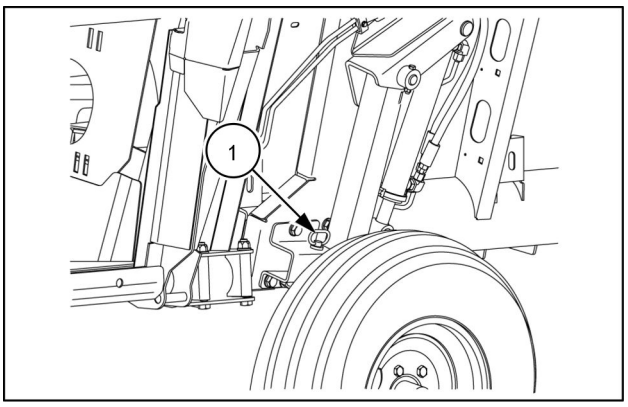
Hazard to bystanders!
Make sure the area surrounding the machine is clear of all persons before starting the engine.
Failure to comply could result in death or serious injury.

W0090A

1. Completely stop all combine movement.
2. Fully raise the header and tilt all the way back
   - Lateral tilt may also be needed due to high and low spots on ground
   - On certain combines, or with certain wheel combinations, the transport wheels may contact the ground while folding.
   - A suitable ditch or depression may be required to properly fold wheels.
3. Select the Head1 screen and choose Header Sub Type.
4. Select 800.
5. On the Head2 screen switch the Header/Knife Fore/Aft to installed.
5. Simultaneously press the Shift button and the reel down button to lower the transport wheels to their transport position.

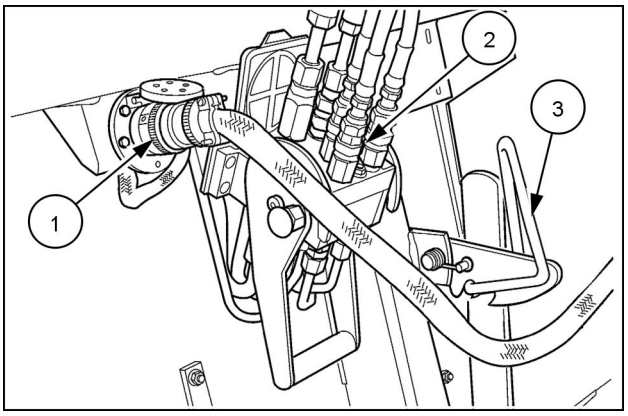
   NOTICE: *If wheels contact the ground while folding, discontinue operation. Damage to the header will result if the operation is continued.*

6. Lower the header close to the ground but not touching.
7. Install safety pin **(1)** in the rear wheel on back of header.



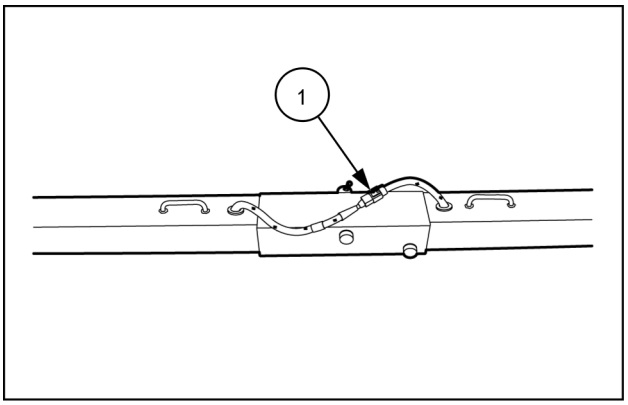
83112583 1

8. Unhook electrical **(1)** and hydraulic **(2)** connections.
9. Disconnect the Power Take-Off (PTO) shaft and place it in the storage position.
10. Release the feeder latch **(3)**.



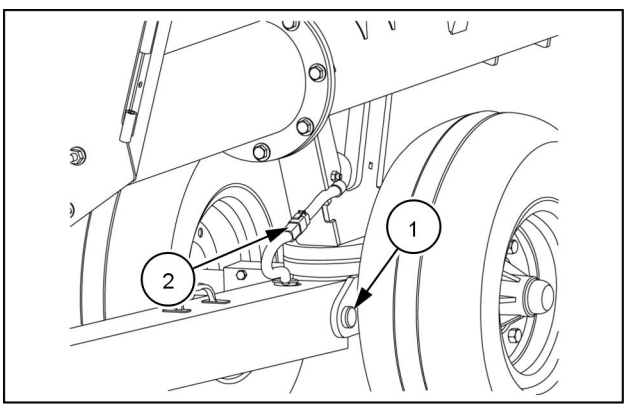
56060957 2

11. Lower the header to the ground and unhook feeder from the header.
12. Remove the transport tongue from the storage location.
13. Connect the two transport tongue halves and attach electrical connector **(1)**.



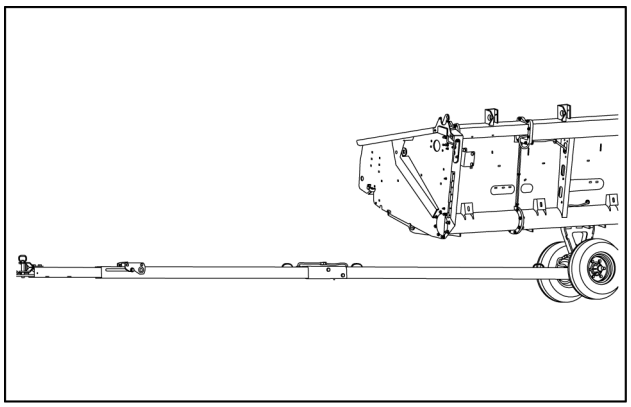
83114791 3

14. Install transport tongue to front transport wheel using pin **(1)**.Connect wire harness **(2)**.



83112585 4

15. Attach header tongue to tow vehicle.
16. Attach the safety hitch chain to the towing vehicle. Adjust the chain length to remove all slack except what is needed for turns.
17. Connect header wire harness to the tow vehicle.
18. Make sure flashers are functioning properly.
19. Ensure Slow Moving Vehicle (SMV) sign and reflectors are clear of debris and visible.



83112584 5

Transition from road to field mode — If equipped with transport package

⚠ DANGER

Crushing hazard!
Make sure area is clear of all persons before lowering equipment.
Failure to comply will result in death or serious injury.

D0016A

⚠ DANGER

Crushing hazard!
Stay clear of the header when unlatching the header from the feeder. Reach under the feeder to disengage the latches on the bottom of the feeder.
Failure to comply will result in death or serious injury.

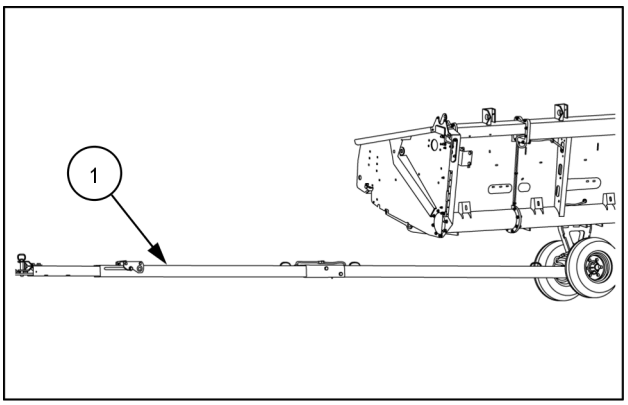
D0066A

⚠ WARNING

Hazard to bystanders!
Make sure the area surrounding the machine is clear of all persons before starting the engine.
Failure to comply could result in death or serious injury.

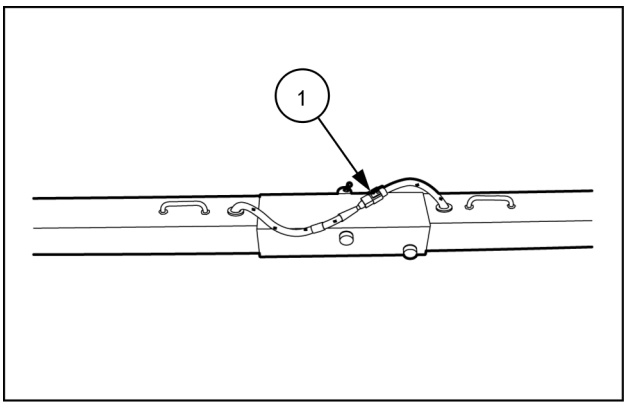
W0090A

1. Block wheels to prevent the header from rolling.
2. Disconnect the safety hitch chain from the towing vehicle.
3. Disconnect header wire harness from the tow vehicle.
4. Disconnect the header tongue **(1)** from the tow vehicle.



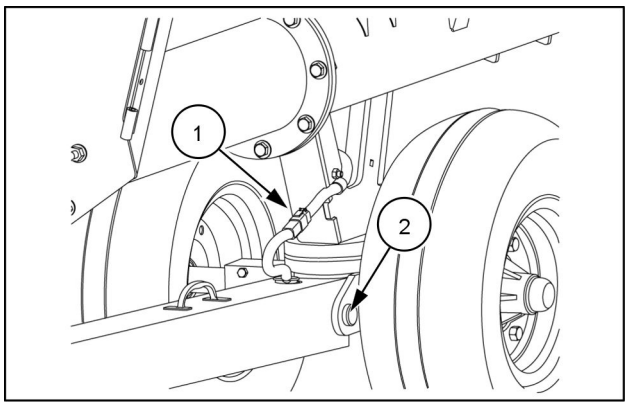
83112584 1

5. Disconnect wire harness **(1)** at tongue joint.



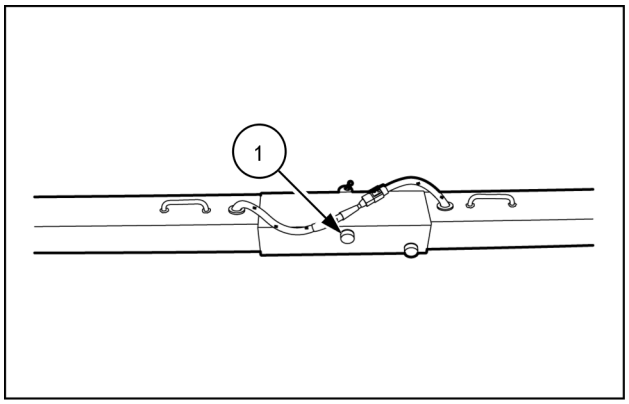
83114791 2

6. Disconnect wire harness **(1)** and remove pin **(2)** securing the transport tongue to the front wheel.
7. Reinstall pin in the hole on front wheel for storage.



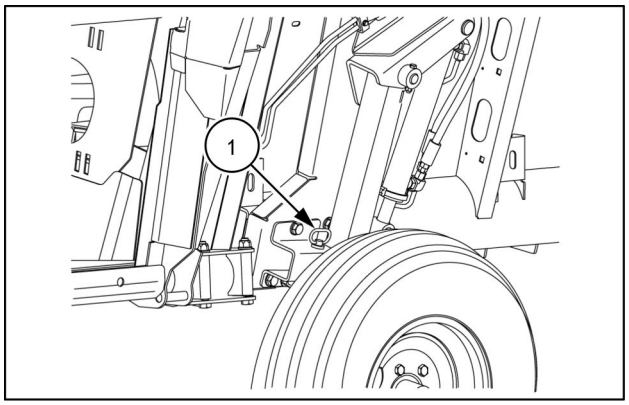
83112585 3

8. Remove two pins **(1)** joining the tongue sections together and store the front half in the lower left tube.
9. Open the left door and remove the cover by loosening the wing nuts.
10. Attach the front tongue section to the cover with hitch pin and slide the tongue into the tube.
11. Secure the cover with wingnuts.



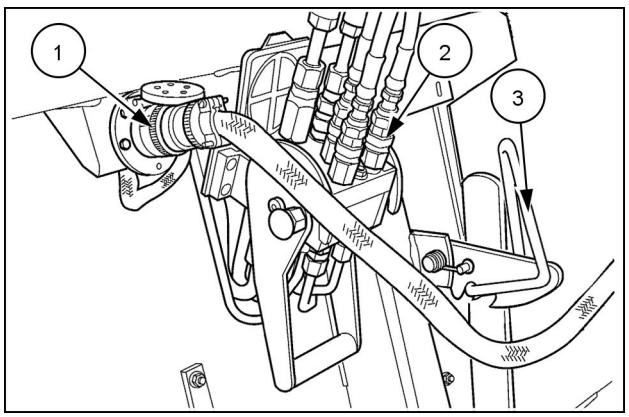
83114791 4

12. Store remaining section on the back of the header using the two joint pins in the holes to secure for storage.
13. Remove the safety pin **(1)** from the rear wheel on the back of the header and store in the storage hole.



83112583 5

14. Attach the header to the combine, raise the header slightly, and secure to the combine using the latch **(3)**.
15. Hook up electrical **(1)** and hydraulic connections **(2)**.



56060957 6

16. Turn the front wheels so they are facing the travel direction for combining.
17. Select the Head1 screen and choose Header Sub Type.
18. Select 800.
19. On the Head2 screen switch the Header/Knife Fore/Aft to installed.
20. Fully raise the header and tilt all the way back
    - Lateral tilt may be needed to due to high and low spots on ground
    - On certain combines, or with certain wheel combinations, the transport wheels may contact the ground while folding.
    - A suitable ditch or depression may be required to properly fold wheels.
21. Simultaneously press the Shift button and the reel up button to raise the transport wheels to their field storage position.

    NOTICE: *If wheels contact the ground while folding, discontinue operation. Damage to the header will result if the operation is continued.*

5 - WORKING OPERATIONS

GENERAL INFORMATION

Overview

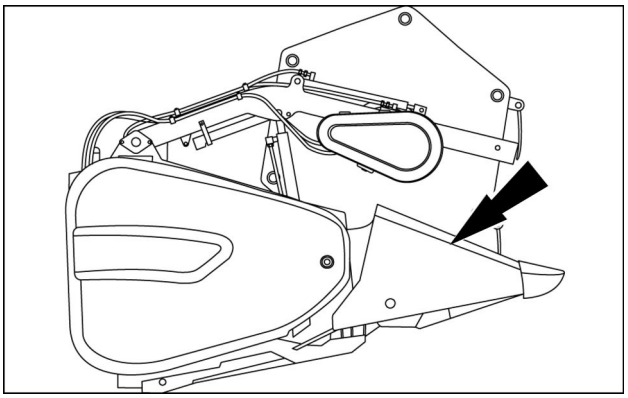
Crop divider

In a crop which is laid to the right, only the crop between the dividers will be lifted by the reel and cut. The grain out of reach will remain lying on the crop.

In a crop which is laid to the left, the grain between the dividers are cut, but the straw out of reach of the reel remains standing and is cut on the next pass.

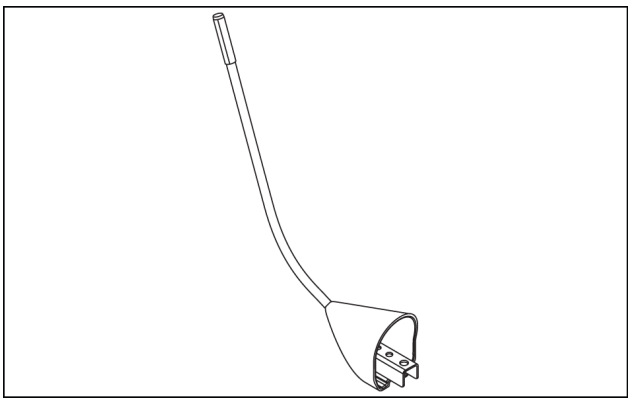
The inner divider functions to guide the crop towards the center of the feed draper and to prevent the straw from wrapping around the ends of the reel.

Short floating dividers are bolted on either side of the header.



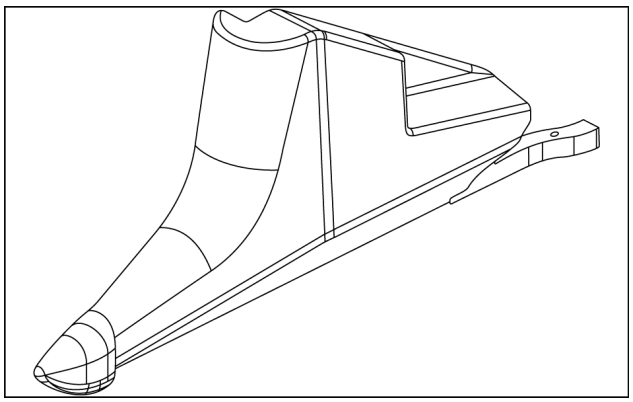
93103468 1

Rod dividers may be used when harvesting wheat or small grain crop, to deflect crop to the cutterbar.



93108177 2

Long dividers may be used when harvesting down or tangled crop, to deflect crop to the cutterbar.



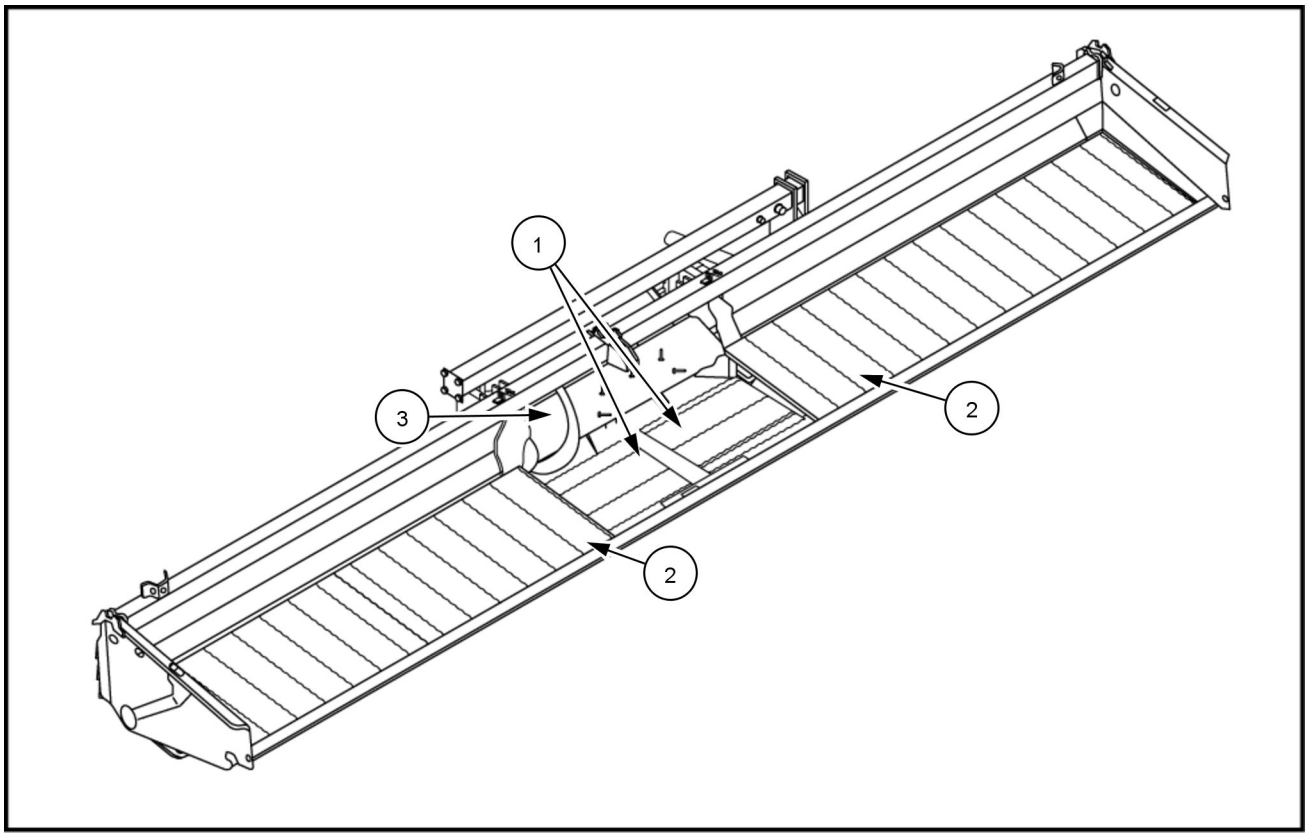
93108178 3

Reversing system

Header blockage clearing

If the combine is equipped with a system to reverse the feeder and header, it must be used should a blockage occur or when dirt has entered the grain header.

NOTICE: *If it is not possible to remove the blockage or all dirt using the reversing system, the header will have to be cleared manually.*



83114764 1

Header shown with the reel and reel arms removed for clarity.

(1) Center drapers	**(2)** Side drapers
(3) Auger	

If the header becomes plugged, reverse the header to clear the blockage.

NOTE: *Refer to your combine operator's manual for the reversing procedure.*

When feeding is reversed;

- The side drapers **(2)** will not operate.
- The auger **(3)** and center drapers **(1)** will rotate in reverse to clear the plug.
- Depending on the combine reversing speed, the knife will also reverse to aid unplugging.

When feeding is returned to normal direction

- The auger **(3)** and center drapers **(1)** will start to rotate in the normal direction of operation.
- The side drapers **(2)** will start after a delay of a few seconds, to allow the crop to clear the center drapers.
- The knife will operate normally.

NOTE: *If the plug does not clear on the first attempt, repeat this process.*

⚠ WARNING

Moving parts!
Disengage the Power Take-Off (PTO), turn off the engine, and remove the key. Wait for all movement to stop before leaving the operator's position. Never adjust, lubricate, clean, or unplug machine with the engine running.
Failure to comply could result in death or serious injury.

W0112A

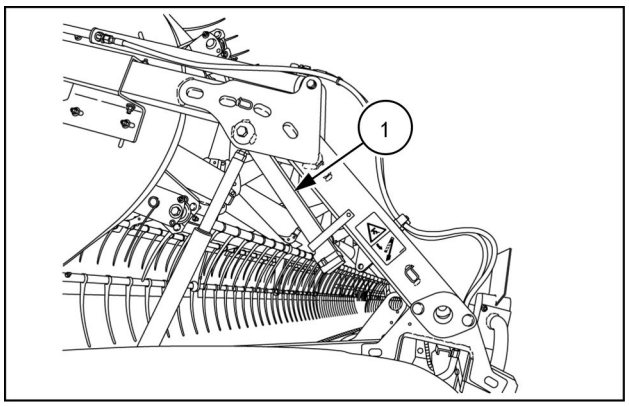
⚠ CAUTION

Maintenance hazard!
Always stop the machine before performing any lubrication. Observe the following precautions before leaving the operator's platform: Disengage all drives. Engage the parking brake. Raise the header. Engage the header lifter safety latch. Turn the machine engine OFF. Remove the ignition key.
Failure to comply could result in minor or moderate injury.

C0029A

To remove a blockage and/or dirt manually, proceed as follows:

1. Disengage the header drive.
2. Raise the reel completely.
3. Stop the engine and wait until all parts have come to a complete standstill.
4. Engage the reel lift cylinder lock outs **(1)**. Refer to **2-24**.
5. When working underneath the reel, watch out for the reel tines, knife sections and knife fingers.
6. Remove the blockage and/or dirt.



83117539 2

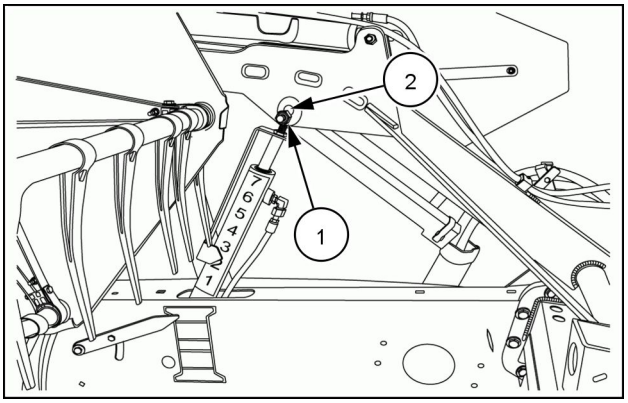
Reel

Reel height adjustment

The reel height is controlled hydraulically from the operators platform. Please refer to your combine operator's manual.

- In a standing crop, the reel should be adjusted so that the reel tine bars contact approximately the top 1/3 of the crop.
- In laid crops, the reel must be lowered to pick up the crop so it can be cut cleanly by the cutter bar.

NOTE: *Upper bolt of reel lift cylinder should be in the bottom hole* ***(1)*** *for plastic tines and top hole* ***(2)*** *for steel tines.*

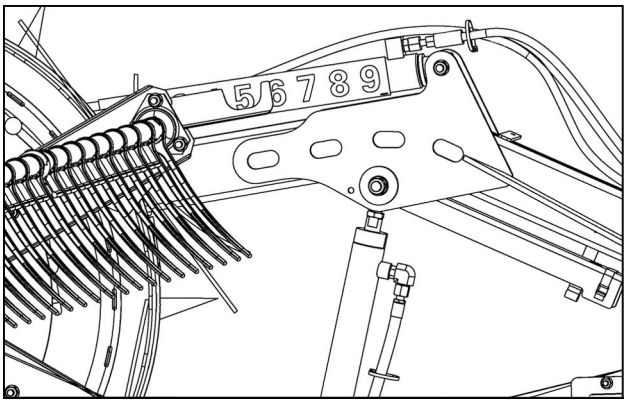


NHIL14GH00587AA 1

Reel fore and aft setting

The reel fore and aft setting is controlled hydraulically from the operator's platform. Please refer to your combine operator's manual.

- In average crop conditions, adjust reel fore/aft setting to 5 on indicator decal.
- Additional adjustment may be necessary to get reel finger ends close to hump in front of floors.
- In laid crops it will be necessary to move the reel forwards and to incline the reel tines towards the feed auger to pick up the crop before it is cut.



NHIL12GH00063AA 2

Reel tine to knife clearance

The clearance between the reel tines and the knife, when the reel cylinders are fully retracted, is factory-set. However, should adjustment be necessary refer to **5-7**.

Reel speed

- The reel speed is adjustable electro-hydraulically from the operators platform.
- To adjust the reel speed refer to your combine operator's manual.

Standing crops:
The reel speed should be slightly faster than ground speed, sweeping crop across the cutter bar.
Semi-laid crops:
The reel speed should be equal to or slightly faster than the forward speed of the combine.
Laid crops:
The reel speed should be faster than the forward speed of the combine so that the reel gathers the crop to the knife.

NOTE: *Too fast a reel speed will cause unnecessary grain loss by shattering the crop before it is cut. "Carry over" of the crop over the reel may also occur.*

Automatic reel speed

It is possible to synchronize the reel speed with the ground speed during threshing, if the combine is equipped with this system.

To use the system refer to your combine operator's platform.

Reel re-phasing

On a regular basis, i.e. one time per day, both the vertical and horizontal reel cylinders should be retracted and held for a few seconds then extended and held for a few seconds, to allow air to purge from the system and to ensure that the reel will always move parallel to the header.

Reel arm leveling and height adjustment

⚠ DANGER

Crush and/or impact hazard!
Always engage the reel lift cylinder locks and header lift locks before working under or around a raised reel/header. Do not rely on the hydraulic system for support. A rupture or leak in any part of the system will drop the reel/header if the proper stops are not in place.
Failure to comply will result in death or serious injury.

D0103A

Reel tine to knife clearance

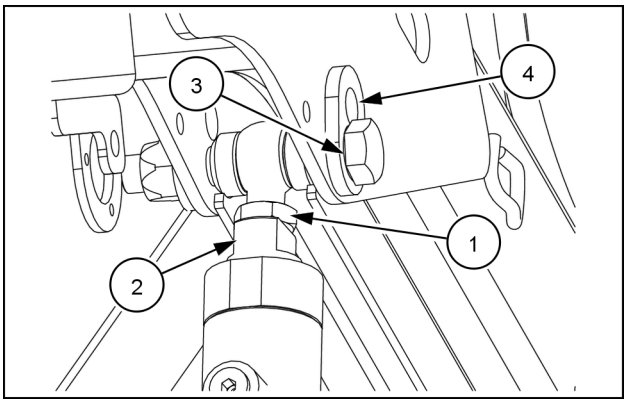
The clearance between the reel tines and the knife, when the reel is fully retracted and lowered, is factory-set. However, should adjustment be necessary, proceed as follows:

1. Set the reel tines above the knife by moving the reel horizontally on the supporting arms. Refer to paragraph headed "Reel fore and aft setting" for details.
2. Loosen the jam nut **(1)** on each of the reel lift cylinders.
3. Ensure the cutter bar is in its highest point in flex mode or locked in rigid mode. Refer to **Sickle cutterbar - Adjust**.
4. Lower the reel completely, i.e. with the reel lift cylinders fully retracted. Adjust the reel lift cylinder shaft **(2)** so that the reel tines are **50 mm** (**2 in**) from the cutter bar. Check the measurement at several places across the cutter bar.

   NOTE: *A one piece reel may sag and the closest point will be in the center of the head. A two piece reel will remain more level across it's length due to the center supporting arm.*
5. Tighten the jam nuts **(1)** on both sides when adjustment is correct.

NOTICE: *Do not exceed* ***63 mm*** *(****2.5 in****) of exposed threads or the plunger may be threaded out of the cylinder causing the reel to fall.*

NOTE: *Bolt should be in bottom hole* ***(3)*** *for plastic tines and top hole* ***(4)*** *for steel tines.*



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Horizontal reel cylinders:

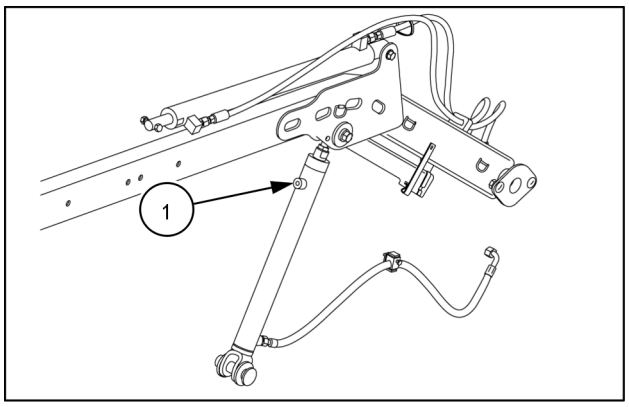
The horizontal reel cylinders are not adjustable.

Vertical reel cylinders

⚠ WARNING

Pressurized hydraulic fluid can penetrate the skin and cause severe injuries.
Tighten all of the connections before starting the engine. If hydraulic fluid has penetrated the skin, seek medical assistance immediately.
Failure to comply could result in death or serious injury.

W0117A



83114788 2

If the reel is lower on one side or lift cylinders bounce excessively:

1. Re-phase the lift cylinders. Refer to **Reel - Product overview**.
2. Ensure the reel is fully retracted.
3. Raise the reel completely.
4. Engage the reel cylinder safety locks.
5. Lower the reel onto the safety locks.
6. Use a suitable container to catch the escaping fluid.
7. Slowly open the bleeder screw **(1)** on the left-hand cylinder just until oil starts to come out.
8. Operate the reel lift function until oil with no bubbles comes out.
9. Close the bleeder screw when oil with no bubbles comes out of the bleeder.
10. Raise the reel holding the button at fully raised for a few seconds.
11. Disengage and store the reel cylinder safety locks.
12. Lower the reel holding the button at fully lowered for a few seconds.
13. Repeat if symptoms continue.

Reel drive

⚠ WARNING

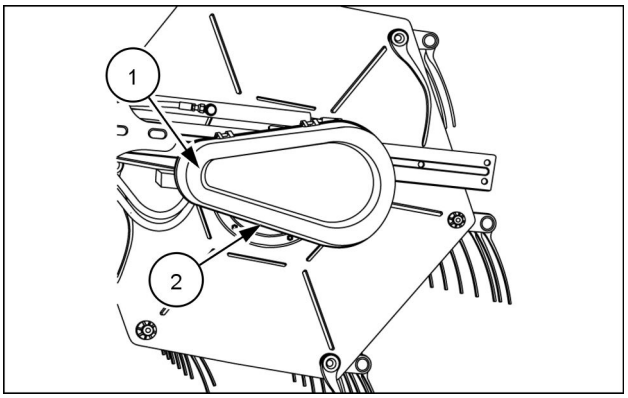
Avoid injury! Always do the following before lubricating, maintaining, or servicing the machine.
1. **Disengage all drives.**
2. **Engage parking brake.**
3. **Lower all attachments to the ground, or raise and engage all safety locks.**
4. **Shut off engine.**
5. **Remove key from key switch.**
6. **Switch off battery key, if installed.**
7. **Wait for all machine movement to stop.**

Failure to comply could result in death or serious injury.

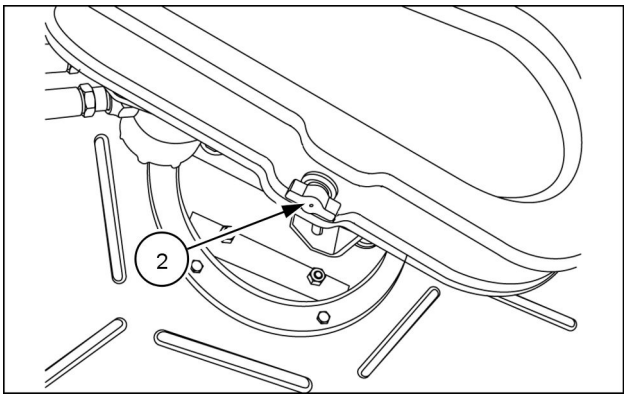
W0047A

To adjust the reel drive chain tension proceed as follows:

1. Open cover **(1)** by turning catch **(2)**.



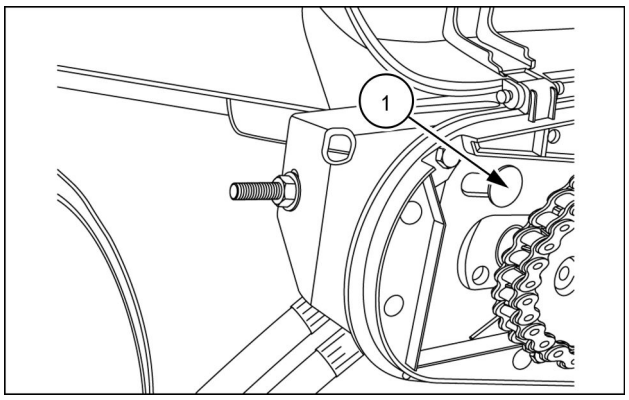
93103444 1



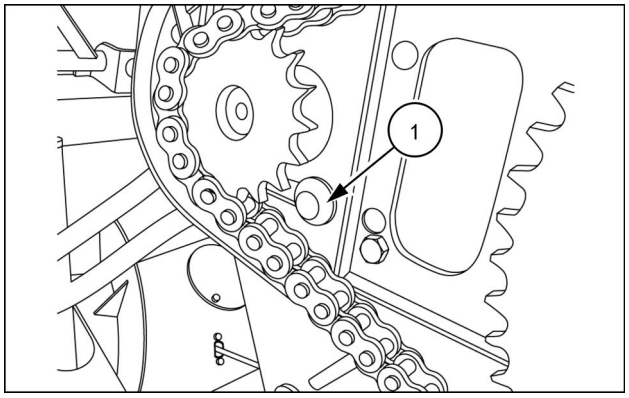
93103448 2

2. Loosen the nuts **(1)**.

   NOTE: *The nuts are located on the back side of the reel drive bracket.*



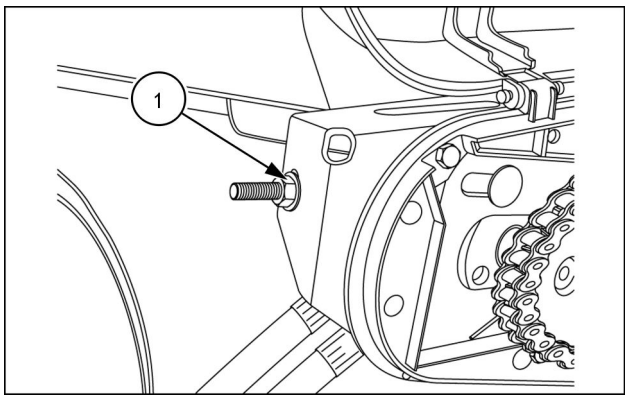
93103445 3



93103447 4

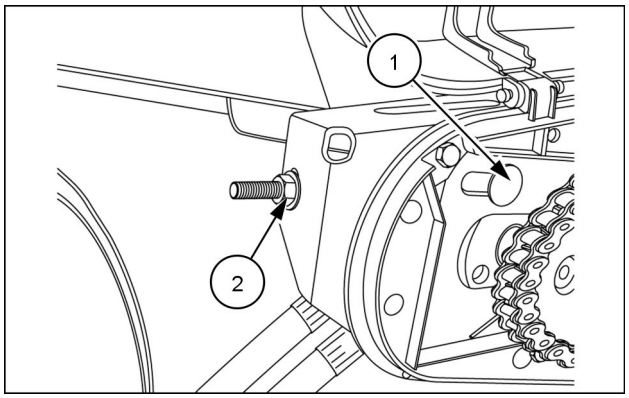
3. Loosen jam nut **(1)** then adjust tension.
   - To remove slack from the chain, loosen the hidden jam nut and tighten the visible jam nut **(1)**.
   - To add slack to the chain tighten the hidden jam nut and loosen the visible jam nut **(1)**.

   NOTE: *The chain tension is correct with* ***6 - 10 mm*** *(****0.24 - 0.39 in****) deflection in the top run of the chain (deflection from gravity).*



93103445 5

4. Tighten the bolts **(1)** to **100 Nm** (**73.8 lb ft**). Tighten jam nut **(2)**.
5. Recheck chain tension with bolts tightened.
6. Close and latch cover.



93103445 6

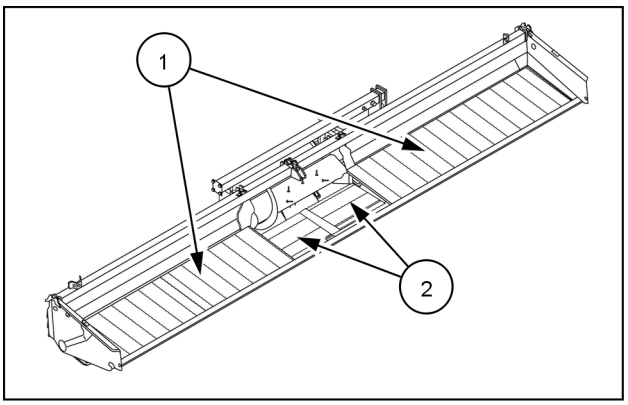
Draper belt

Your NEW HOLLAND head is equipped with four draper belts to move cut crop into your combine:

- Two side draper belts **(1)**
- Two center draper belts **(2)**

These are driven by hydraulic motors that are powered by an onboard hydraulic system.

NOTE: *Image shown with reel removed for clarity.*



83114764 1

Draper belt adjustments

⚠ WARNING

Avoid injury! Always do the following before lubricating, maintaining, or servicing the machine.
1. Disengage all drives.
2. Engage parking brake.
3. Lower all attachments to the ground, or raise and engage all safety locks.
4. Shut off engine.
5. Remove key from key switch.
6. Switch off battery key, if installed.
7. Wait for all machine movement to stop.
Failure to comply could result in death or serious injury.

W0047A

⚠ WARNING

Avoid injury!
Some steps may require the unit to be in a running state as well as having the header engaged. Be very careful around all moving mechanisms.
Failure to comply could result in death or serious injury.

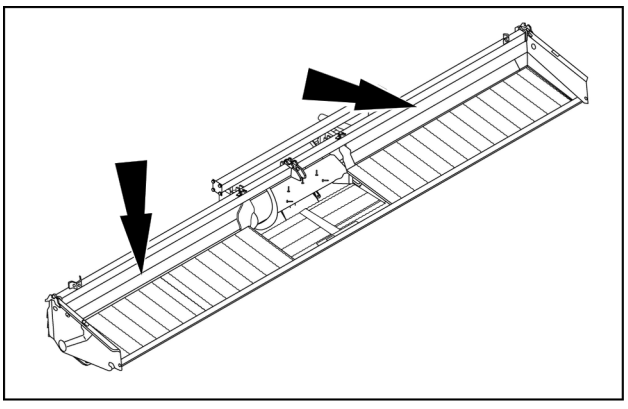
W1001B

Side drapers

To adjust side draper tension proceed as follows:

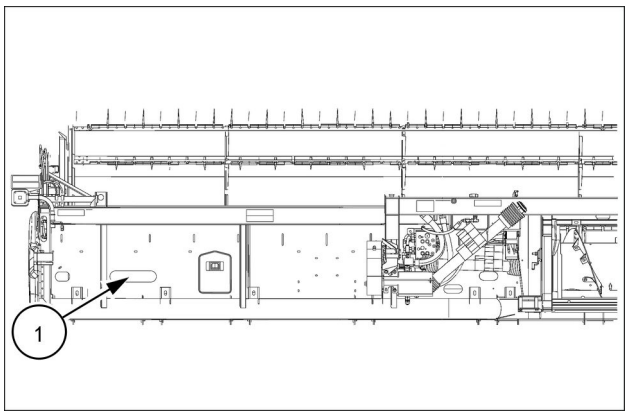
1. Lower the head to the ground or raise it and engage the combine lift cylinder locks.

NOTE: *Refer to your combine operator's manual for this process.*



83114764 1

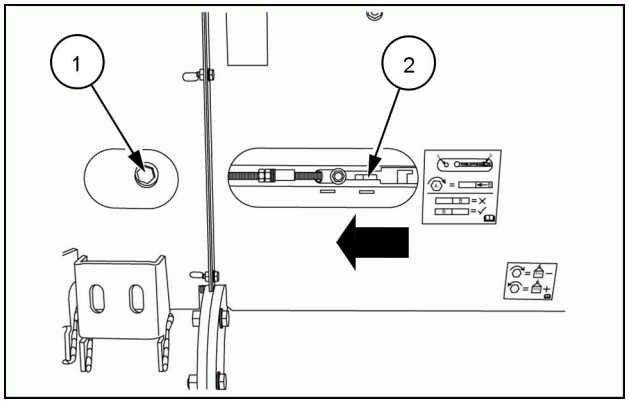
Each side draper has it's own set of adjusters **(1)**. The images shown are of the left-hand side of the head. The procedure is the same for the right-hand side.



83112554 2

NOTE: *Draper tension should be just tight enough to prevent slipping and keep the draper from sagging below the cutter bar.*

2. Check that the draper guide, rubber track on the underside of the draper, is fully engaged in the groove of the drive roller and also that the idler roller is in between it's guides.
3. Turning the adjuster bolt **(1)**:
   - In, clockwise, will increase draper tension.
   - Out, counter-clockwise, will decrease draper tension.
4. Turn the tension adjuster bolt **(1)** clockwise, and the red indicator bar **(2)** will move inboard, in the direction of the arrow, to indicate that the draper is tightening. Tighten the adjuster until the trailing edge of the red bar is approximately halfway across the window.



NHIL14GH00591AA 3

NOTICE: *To avoid damage of the draper belt, rollers and/or adjusting components, DO NOT operate the head with the draper belt tension set so that the red indicator bar is NOT visible in the window.*

⚠ WARNING

Avoid injury!
Some steps may require the unit to be in a running state as well as having the header engaged. Be very careful around all moving mechanisms.
Failure to comply could result in death or serious injury.

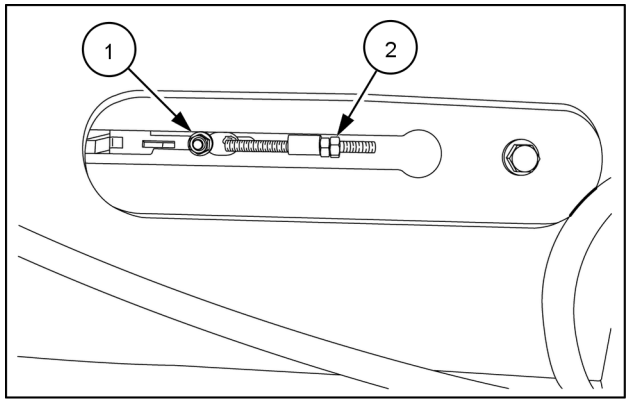
W1001B

NOTE: *An assistant properly trained to use a combine should be in the cab of the combine while the combine is running.*

To adjust side draper tracking proceed as follows:

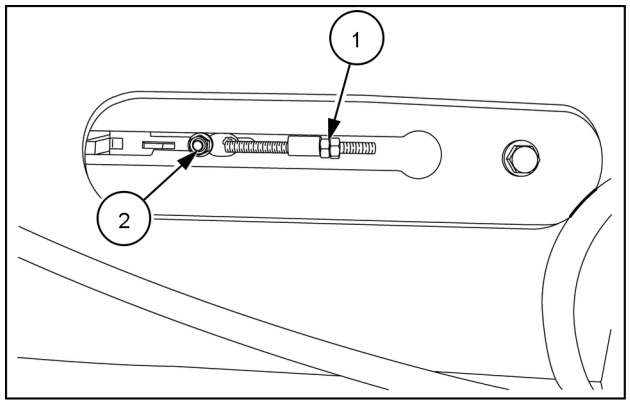
Location (A)

1. Loosen nut **(1)** and jam nut **(2)**.



83114721 4

2. Turn the adjuster nut **(1)**:
   - IN, or move the adjuster nut **(1)** closer to the nut **(2)**, will move the draper tracking towards the front of the head.
   - OUT, or move the adjuster nut **(1)** farther from the nut **(2)**, will move the draper tracking towards the rear of the head.
3. Tighten all hardware when adjustments are complete.

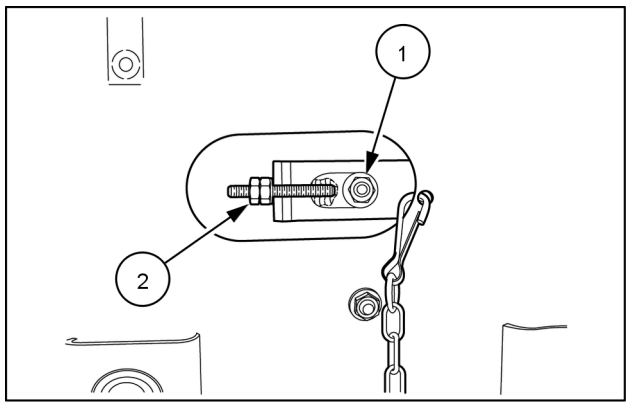


83114721 5

Location (C)

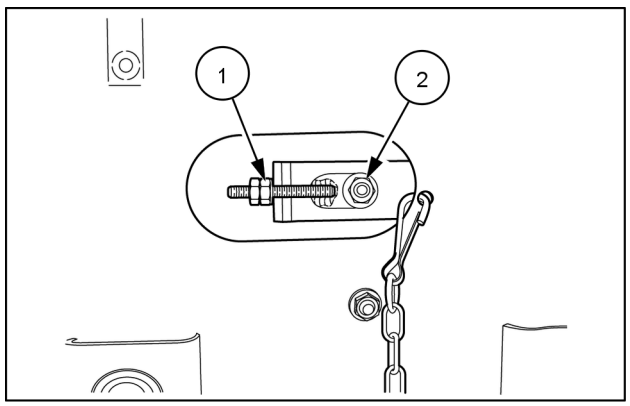
1. Loosen nuts **(1)** and jam nut **(2)**.

   NOTE: *The second nut **(1)** must be accessed through the adapter opening.*



83112606 6

2. Turn the adjuster nut **(1)**:
   - IN, or move the adjuster nut **(1)** closer to the lock nut **(2)**, will move the draper tracking towards the front of the head.
   - OUT, or move the adjuster nut **(1)** farther from the nut **(2)**, will move the draper tracking towards the rear of the head.
3. Tighten all hardware when adjustments are complete.

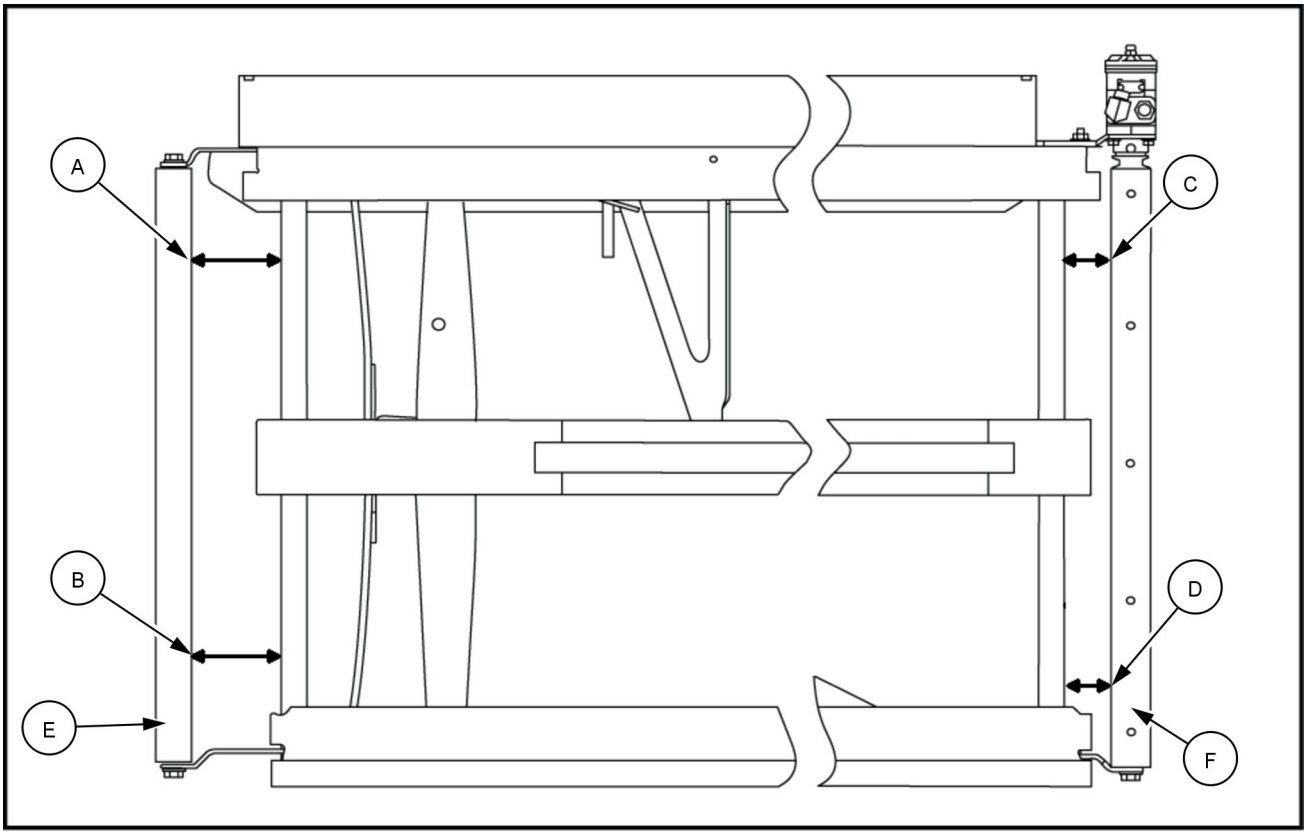


83112606 7

Tracking	Location	Adjustment	Method
Rearward	Idler roller	Increase **(A)** Refer to image **8**	Location **(A)** Tighten adjuster nut **(1)** Refer to image **5**
Forward		Decrease **(A)** Refer to image **8**	Location **(A)** Loosen adjuster nut **(1)** Refer to image **5**
Rearward	Drive roller	Increase **(C)** Refer to image **8**	Location **(C)** Tighten adjuster nut **(1)** Refer to image **7**
Forward		Decrease **(C)** Refer to image **8**	Location **(C)** Loosen adjuster nut **(1)** Refer to image **7**

NOTE: *If tracking adjustment is needed, adjust the idler roller first.*

Draper roller alignment



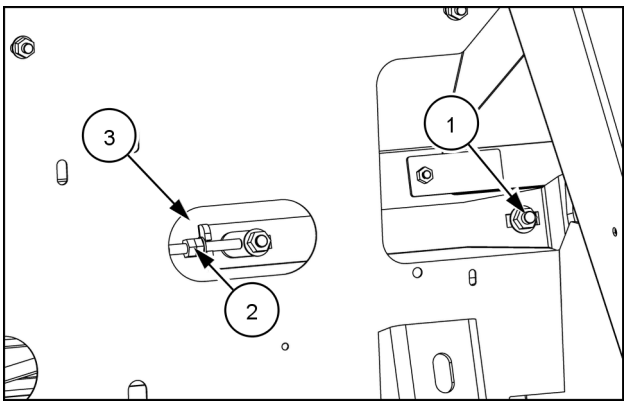
83114782 8

Right-hand side

To ensure square alignment for proper draper tracking, proceed with the following:

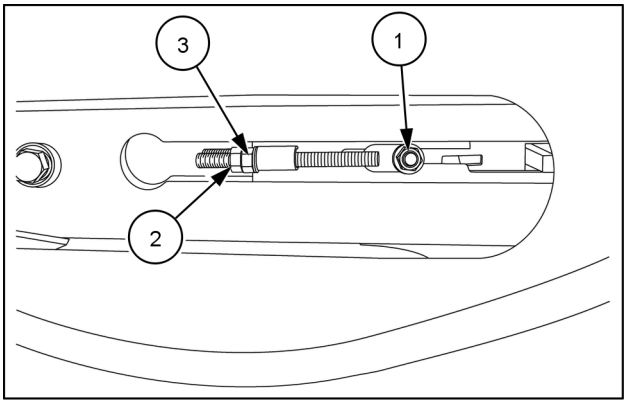
1. Measure each distance **(A)**, **(B)**, **(C)** and **(D)** from each roller to the channel as shown.

2. Align the drive roller **(F)** first by loosening nuts **(1)** and jam nut **(2)** then turn adjuster nut **(3)** until **(C)** and **(D)** are within **2 mm** (**0.08 in**).
3. Tighten nuts **(1)** and jam nut **(2)**.



NHIL12GH00058AA 9

4. Align the idler roller **(E)** first by loosening nut **(1)** and jam nut **(2)** then turn adjuster nut **(3)** until **(A)** and **(B)** are within **2 mm** (**0.08 in**).
5. Tighten nut **(1)** and jam nut **(2)**.



83112597 10

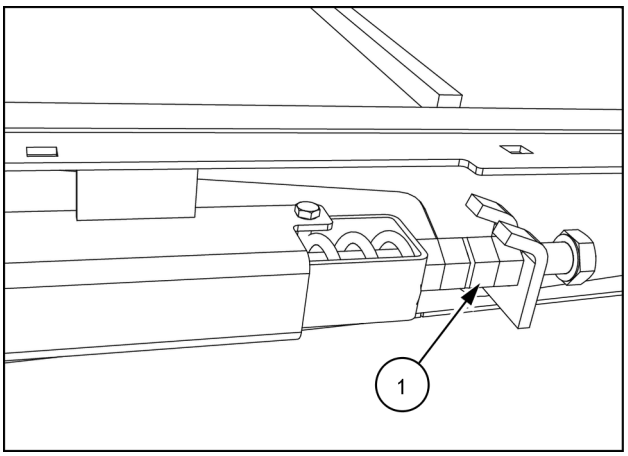
Center drapers

1. Raise the head and either engage the combine lift cylinder locks or place suitable stands under the head that are capable of bearing the weight of the head.

NOTE: *Refer to your combine operator's manual for this process.*

To adjust center draper tension, proceed as follows:

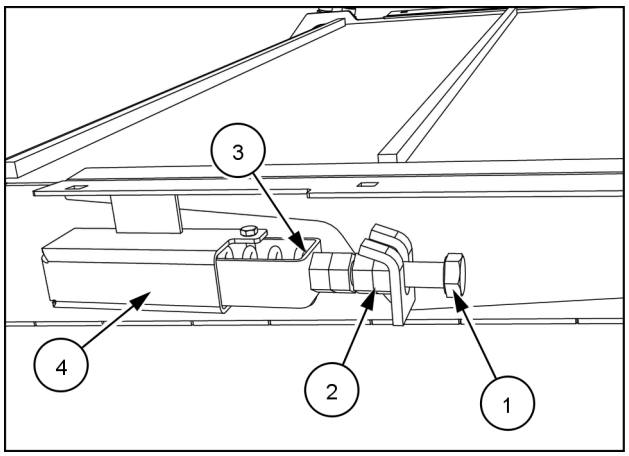
2. Loosen the jam nut **(1)** on either side of the draper.



NHIL15GH00394AA 11

3. Turn the bolt **(1)** while holding the nut **(2)** until the top of the retainer **(3)** is flush with the draper frame **(4)**.
4. Tighten the jam nut.

NOTE: *Repeat this process for each center draper adjuster.*

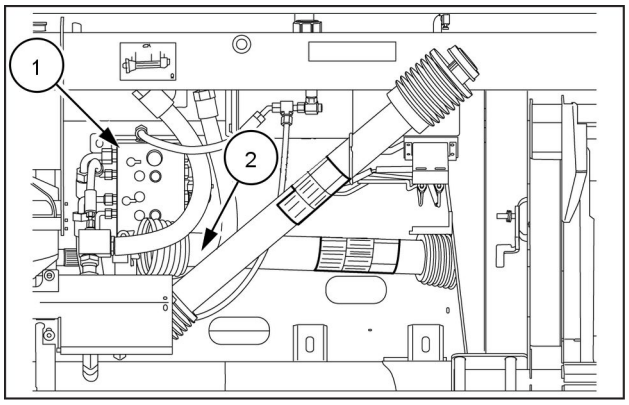


NHIL15GH00395AA 12

Draper speed

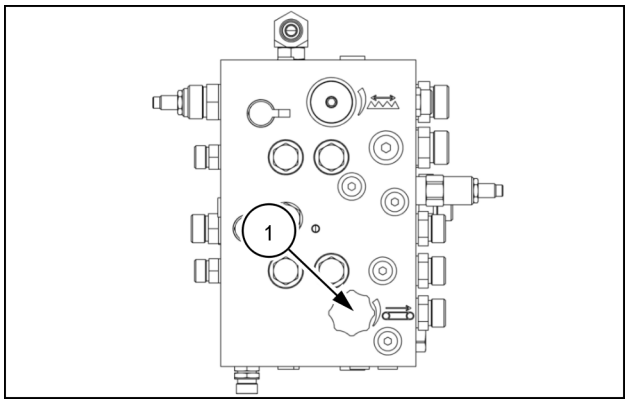
Side draper belt speed can be increased or decreased to adjust how the header feeds. This header is generally ran with full belt speed (knob fully counter clockwise). Adjustments are made at the valve block **(1)** located above the output PTO shaft **(2)**

NOTE: *Center belt speed is not adjustable.*



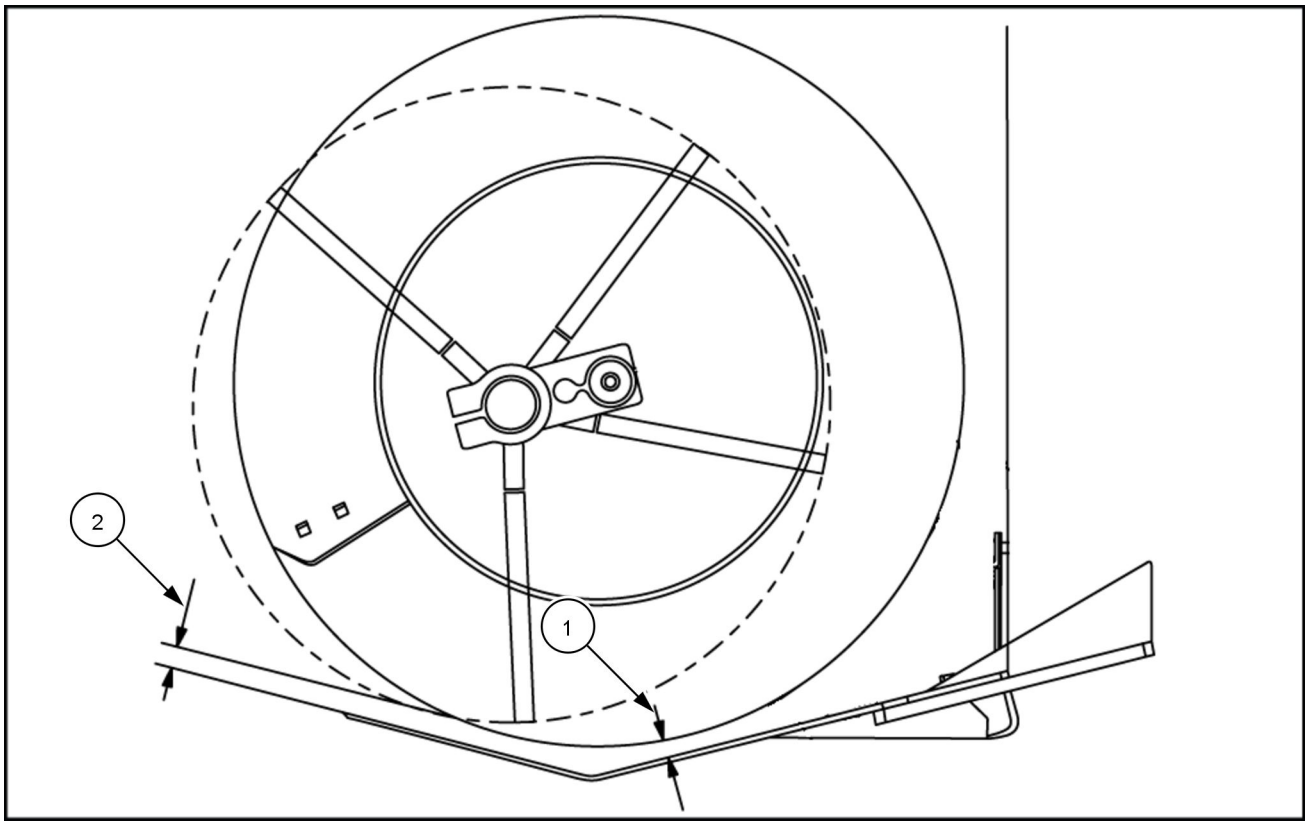
83112562 13

1. To increase belt speed, turn knob **(1)** counter clockwise until desired speed is obtained.
2. To decrease belt speed, turn knob **(1)** clockwise until desired speed is obtained.



23118603 14

Auger



83114769 1

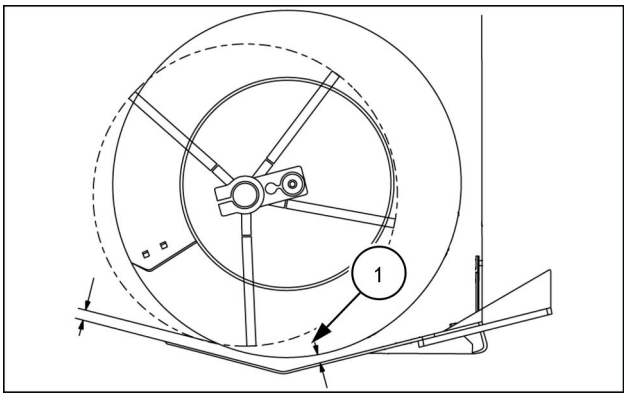
(1) Auger flighting to header floor clearance Minimum **24 mm** (**0.9 in**)	**(2)** Auger finger path to header floor clearance 1. Minimum **24 mm** (**0.9 in**) 2. Factory setting: **115 mm** (**4.50 in**)

The feed auger is adjustable vertically.

The auger trough clearance must be adjusted to produce a positive feed without threshing or bunching the crop or smashing the straw.

Ensure the auger height is set above the **24 mm** (**0.9 in**) minimum clearance **(1)** between the auger flighting and the floor pan at the nearest place.

NOTE: *This clearance is at the rear part of the header floor. Please refer to* ***5-19*** *for all of the settings required.*



83114769 2

This clearance will be satisfactory for most crop conditions. However, if the crop bunches under the auger and does not feed evenly to the center of the header, the auger-to-trough clearance should be reduced to gain better contact with the crop.

- This condition normally exists when the crop is light and little material is being fed into the auger.

When harvesting heavy crops or crops infested with large weeds, the auger-to-trough clearance should be increased to allow room for the material to move under the auger.

To adjust the auger refer to **5-19** .

Auger speed

Auger speed can only be changed by exchanging sprockets on the head.

- An optional 38 tooth driven sprocket is available to increase auger speed by **12 %**
- An optional 47 tooth driven sprocket is available to decrease auger speed by **9 %**

	Drive sprocket	Driven sprocket	Auger RPM
Standard sprocket	11 tooth	43 tooth	**147 RPM**
Speed up sprocket	11 tooth	38 tooth	**166 RPM**
Slow down sprocket	11 tooth	47 tooth	**135 RPM**

Positioning the auger

⚠ WARNING

Avoid injury! Always do the following before lubricating, maintaining, or servicing the machine.
1. **Disengage all drives.**
2. **Engage parking brake.**
3. **Lower all attachments to the ground, or raise and engage all safety locks.**
4. **Shut off engine.**
5. **Remove key from key switch.**
6. **Switch off battery key, if installed.**
7. **Wait for all machine movement to stop.**

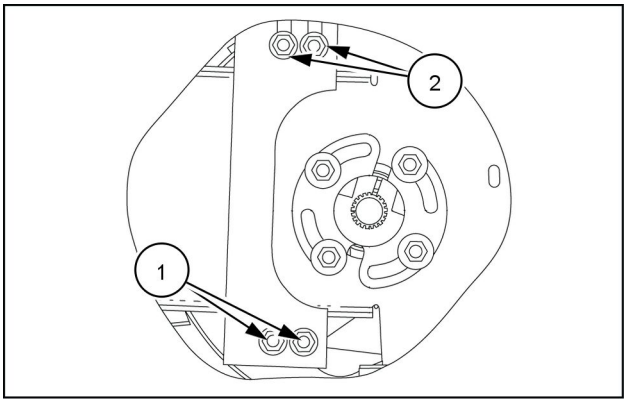
Failure to comply could result in death or serious injury.

W0047A

To adjust the auger position proceed as follows:

To adjust the auger height:

1. Loosen the two bolts **(1)** on either side of the auger.
2. Loosen the two float bolts **(2)** on either side of the auger.

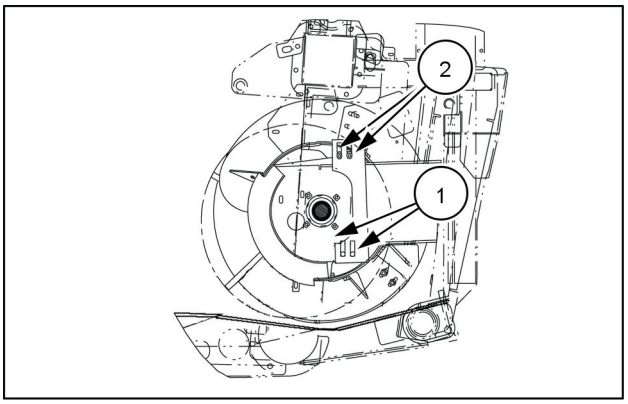


83112543 1

3. Use wood blocks or other suitable prying device to raise or lower the auger.
4. Tighten the two lower mount bolts **(1)**.
5. Tighten the two upper float bolts **(2)**.

NOTE: *Be sure to adjust the two sides evenly.*

NOTE: *If auger float is desired, leave space between the upper float bolt block and the auger arm.*



83112544 2

After completing adjustment:

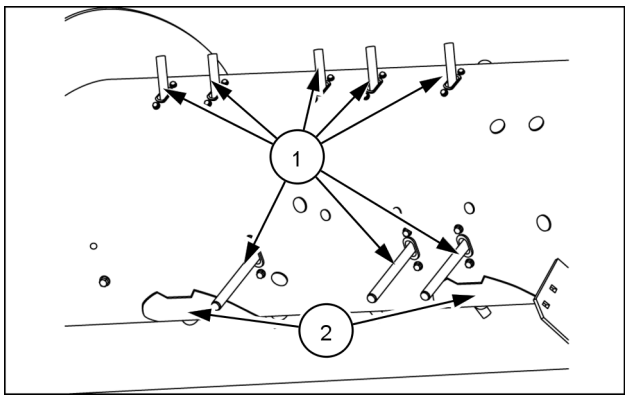
1. Rotate the auger to ensure clearance between the auger flighting and the header floor, also ensure the finger clearance to the header floor. Refer to **5-17** for minimum clearance.

Auger fingers

Retractable auger tines

The auger is equipped with retractable tines **(1)**. There is easy access through the access covers **(2)** for replacement of the retractable tines.

To prevent possible auger damage, inspect and replace as needed any broken auger tines at least one to two times per day.

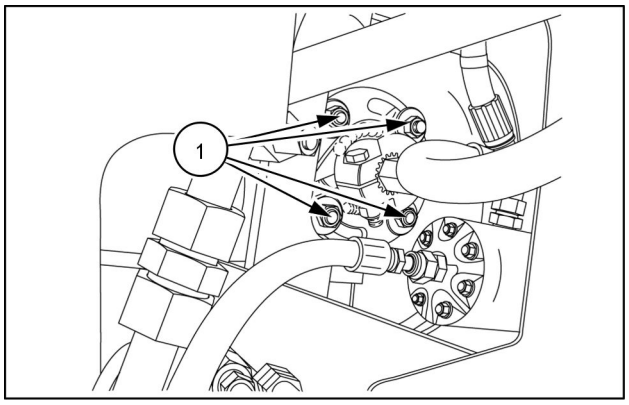


93103466 1

Adjust timing

To adjust finger timing proceed as follows:

1. Loosen the four nuts **(1)** on the right-hand side of the auger.



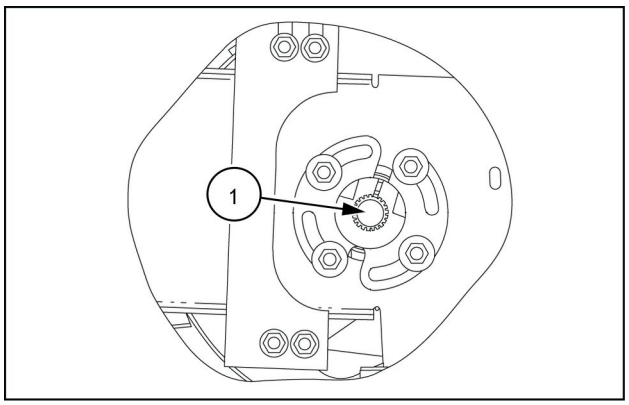
83112601 2

2. Turn the center adjuster hex **(1)** to the desired finger position.
3. Tighten the four nuts when adjustment is complete.

   NOTE: *When looking from the right-hand side of the header, the fingers should be retracted at the 8 o'clock position.*

   NOTE: *If crop carries over the auger, adjust the fingers so they are retracted sooner.*

NOTE: *Refer to* ***5-17*** *for minimum clearance.*

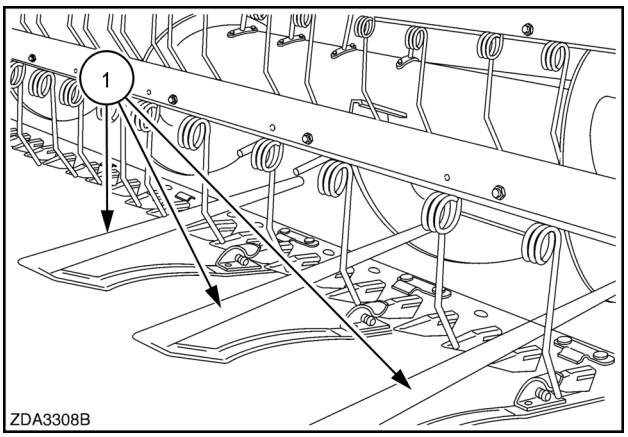


83112543 3

Crop lifters

These can be used when operating in exceptional conditions, such as laid crops or stony conditions.

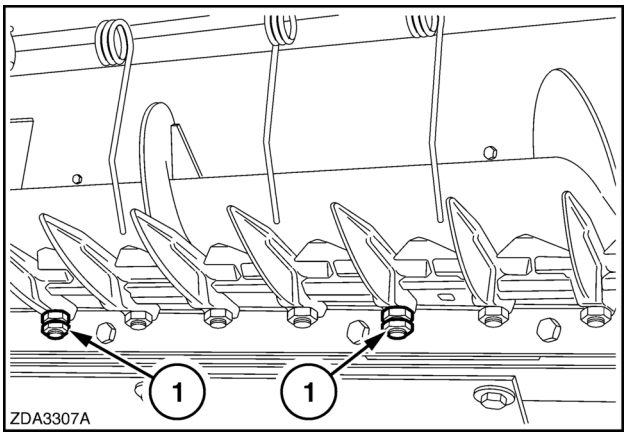
Install a crop lifter **(1)** every fourth finger starting from the left side.



ZDA3308B 1

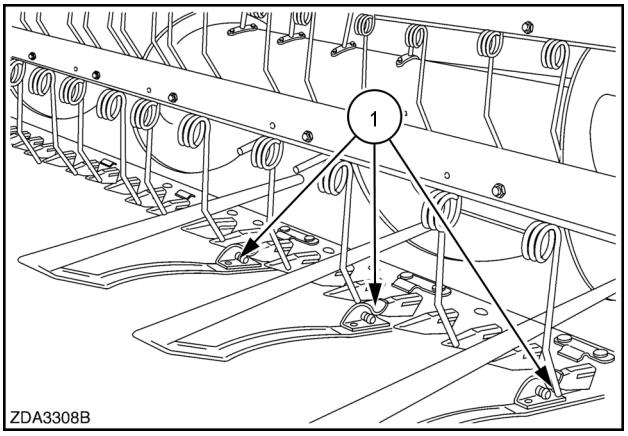
Installation

1. Replace the nut on every fourth finger with a special nut **(1)** (if not already installed).



ZDA3307A 2

2. Slide the crop lifter in the slot of the nut.
3. Pull the crop lifter up and slide the pawl holder **(1)** over the knife finger top.



ZDA3308B 3

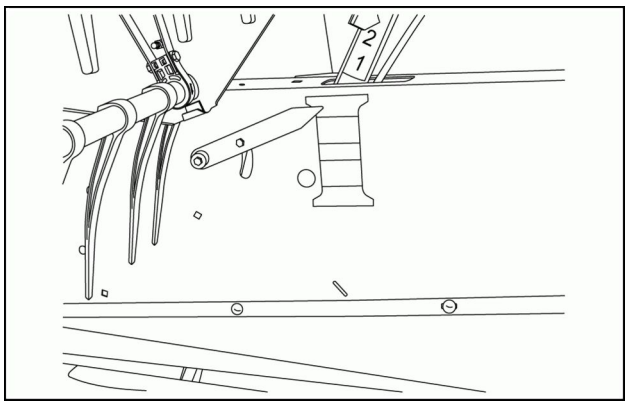
Automatic Header Height Control (AHHC) - Flex headers

The flexible header is equipped with an Automatic Header Height Control (AHHC) system.

The system will sense changes in ground contour across the width of the cutterbar and also changes in ground contour fore/aft as the combine moves forward.

The header will raise and lower automatically to follow the contour of the ground.

NOTE: *The AHHC will only operate when the operator is seated and the feeder drive is engaged. Refer to the combine operator's manual.*



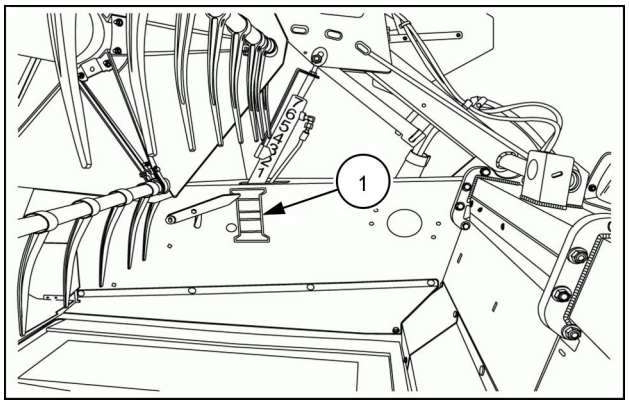
NHIL14GH00588AA 1

Header height indicator

The flexible cutterbar has a total float range of approximately **152 mm** (**6.0 in**). A height indicator scale **(1)** is located on the inside of the left and right end sheets.

During operation the divider will indicate the header height and position of the cutterbar within the float range. The position of the divider will change when the header operating height is adjusted with the AHHC knob.

For most operating conditions, set the height so the pointer is in line with the center black mark on the scale. When operated in this position the flexible cutterbar will have **76.2 mm** (**3 in**) of upward float to ride over high spots in the field and **76.2 mm** (**3 in**) of downward float to ride down into low spots in the field. The combine AHHC system will adjust the header height to maintain the selected position as the cutterbar floats up and down during field operation.



NHIL14GH00586AA 2

Field operation

- For soft or moist soil conditions the header indicator can be set at a lower position on the scale. Operating the header at a lower position will reduce cutterbar ground pressure.
- Ground pressure can be increased or decreased by adjusting the flotation spring tension.

Ground pressure too high:

- If the cutterbar skids are pushing dirt and trash, the ground pressure is too high.
- Spring tension should be increased to provide more lift to the cutterbar.

Ground pressure too low:

- If the cutterbar rides up over stubble, bounces excessively, or will not float down in low spots, the ground pressure is too low.
- Spring tension should be decreased to provide less lift to the cutterbar.

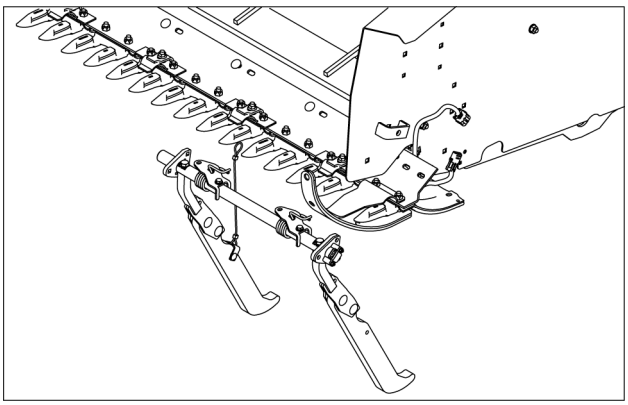
Be sure to differentiate between cutterbar flotation and combine AHHC performance.

Check cutterbar with combine stopped and stationary to see if cutterbar returns to lowest position.

Automatic Header Height Control (AHHC) - Rigid headers

The rigid header is equipped with an Automatic Header Height Control (AHHC) system. The system will sense changes in ground contour across the width of the cutterbar and also changes in ground contour fore/aft as the combine moves forward. The header will raise and lower automatically to follow the contour of the ground.

NOTE: *The AHHC will only operate when the operator is seated and the feeder drive is engaged. Refer to the combine operator's manual.*

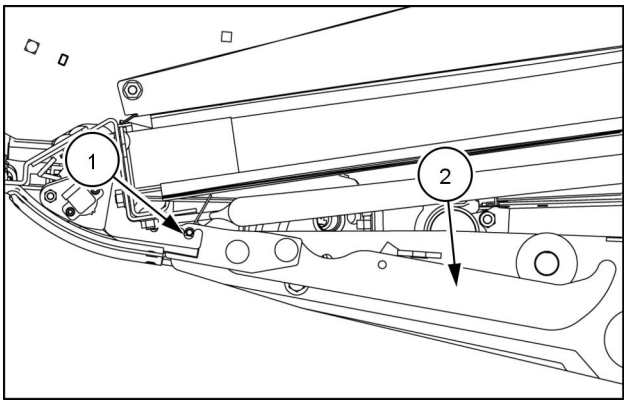


NHIL12GH00281AA 1

When not in use, the rigid header height control arms can be locked into a storage position to prevent damage.

To lock arms in the storage position:

1. Remove pin from the storage hole.
2. Retract drag arm **(2)** into storage position.
3. Install pin into lockout hole **(1)** , and lock arm into position.



NHIL12GH00280AA 2

Cutterbar float – Mechanical

⚠ DANGER

Crushing hazard!
Always do the following before entering the area below the header: Disengage the threshing mechanism, lift the header to its maximum height, apply the parking brake, and stop the engine. Place the header safety latch over the cylinder rod.
Failure to comply will result in death or serious injury.

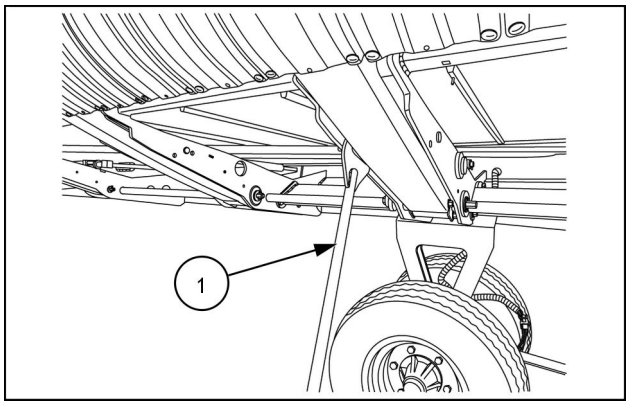
D0012A

NOTE: *Figures shown have the draper removed for clarity.*

To adjust the cutterbar flotation, first ensure the cutterbar is unlocked.

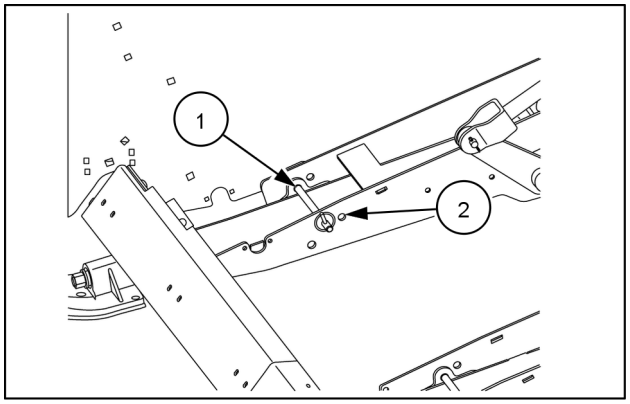
To unlock the cutterbar proceed as follows:

1. Raise the header and engage the combine's lift cylinder lock. Refer to your combine operators manual.
2. Use the lockout tool **(1)** to relieve pressure on the cutterbar.



NHIL14GH00609AA 1

3. Starting on the right-hand side, move the retaining pin **(1)** from the front, locked, hole and place it in the rear, unlocked, hole **(2)**.

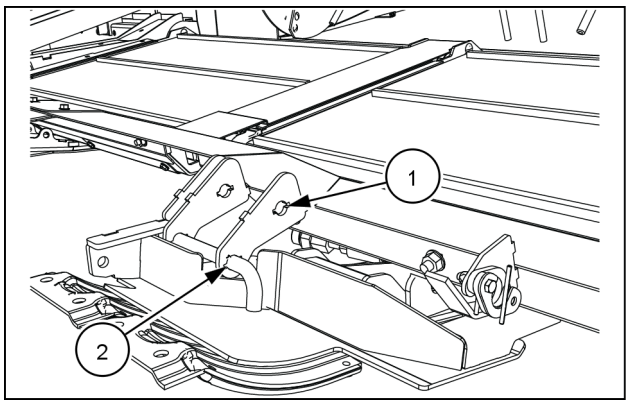


83114767 2

4. For the two center arms move the pin **(2)** from the locked position (front hole), to the unlocked position (rear hole) **(1)**.

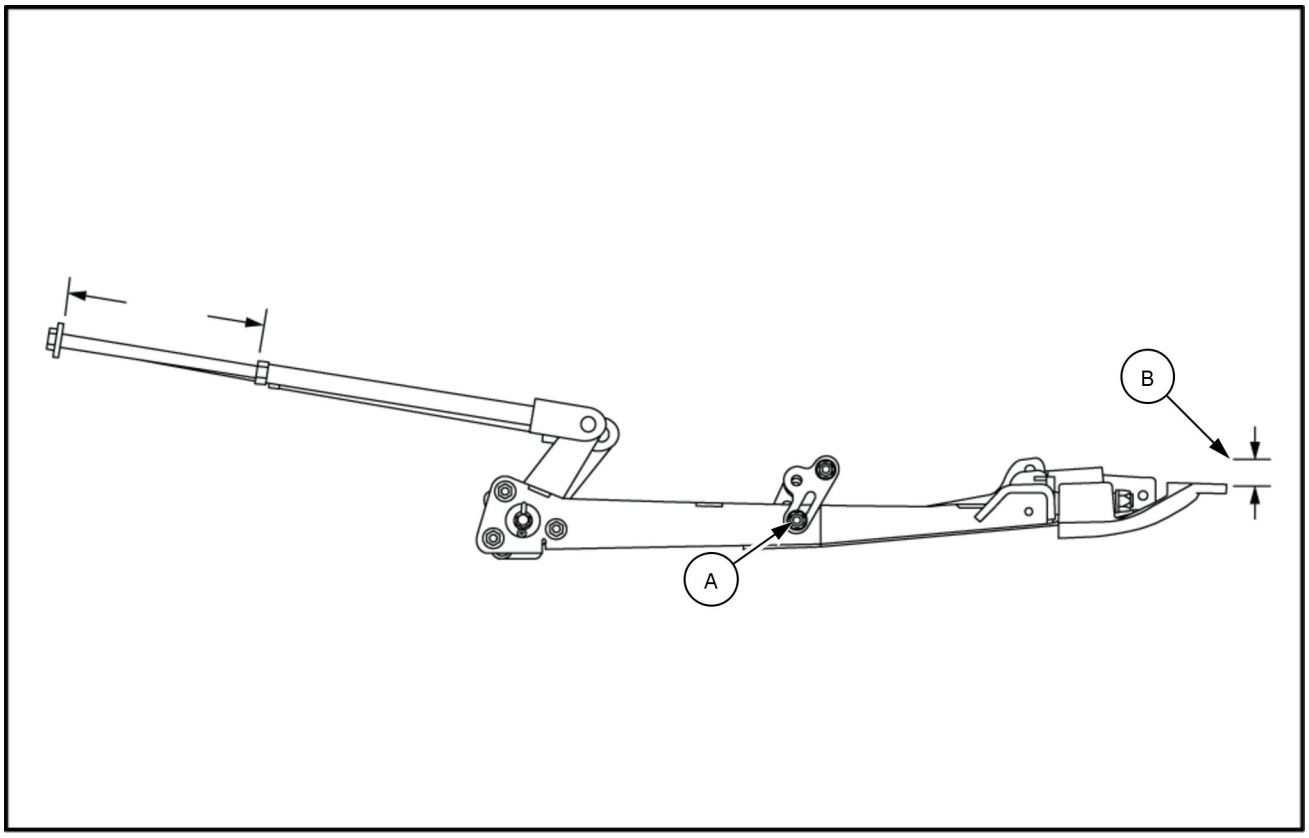
NOTE: *The unlocked position in the front hole **(2)** is located under the Z channel which is not shown in Figure **3**.*

5. To return the cutter bar in the locked position replace the pins through the locked hole and through the float arms.



NHIL15AF01828AA 3

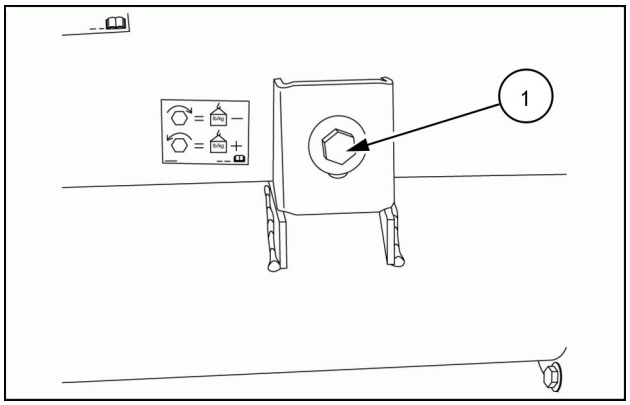
To adjust the cutterbar weight (or ground pressure):



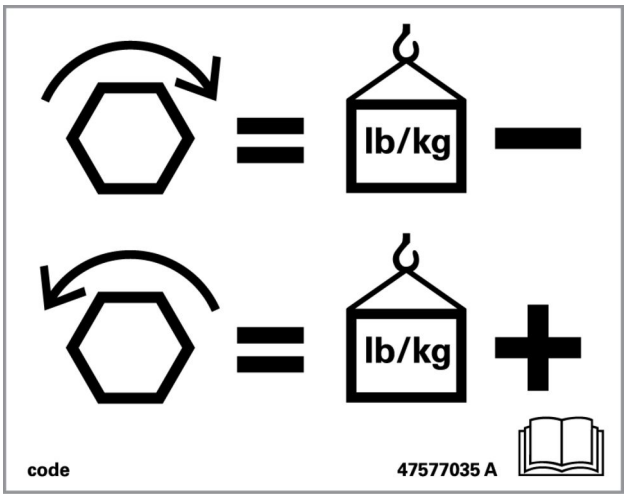
83112559 4

1. Raise the cutterbar approximately **305 mm** (**12 in**) off of the ground.

2. Press the guard down to the bottom of its range **(A)** and release.
3. Turn bolt **(1)** clockwise to tighten or lighten the cutter-bar.
4. Tip of the guard should rebound **5 - 20 mm** (**0.2 - 0.8 in**) **(B)** above the lowest point.



NHIL14GH00589AA 5



47577035_A 6

Cutterbar float - Hydraulic

Increasing pressure (on indicator to right of '#1') in the hydraulic cylinders decreases ground pressure from the cutterbar.

Decreasing pressure (on indicator to left of '#1') in the hydraulic cylinders increases ground pressure from the cutterbar.

Ground pressure too high:

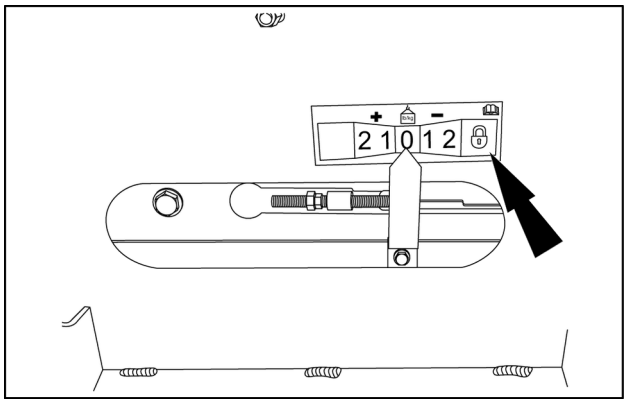
- If the cutterbar skids are pushing dirt and trash, the ground pressure is too high.
- Hydraulic pressure should be increased to provide more lift to the cutterbar

Ground pressure too low:

- If the cutterbar rides up over stubble, bounces excessively, or will not float down in low spots, the ground pressure is too low.
- Hydraulic pressure should be decreased to provide more ground pressure to the cutterbar.

NOTE: *Be sure to differentiate between cutterbar flotation and combine Automatic Header Height Control (AHHC) performance. Check cutterbar with combine stopped and stationary to see if cutterbar returns to lowest position.*

For additional information see **5-33**



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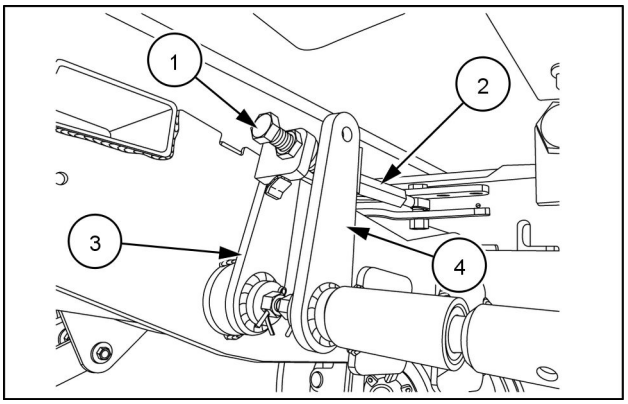
Hydraulic float adjustment

1. Raise header completely off the ground.
2. Position flotation trim cylinder to the '#0' position on decal in the 'black' operating range using combine hydraulics. Combine function to move cylinder is holding 'shift' on back of CommandGrip™ handle and adjusting with 'reel raise/lower' **(1)**.

   NOTE: *Indicator should be between '+1' and '-1' during normal operation. To temporarily lock the cutterbar, move indicator all the way to the right past the locked symbol.*



NHIL15GH00360AA 2

3. Adjust the turnbuckle **(2)** as needed to correctly set the flotation on the support arm **(3)** next to center. Tighten the jam nut on the turnbuckle.
4. Adjust the bolt **(1)** as required to set the center flotation **(4)**. Tighten the jam nut on the adjusting bolt.
5. Repeat steps 3 through 5 on opposite side.

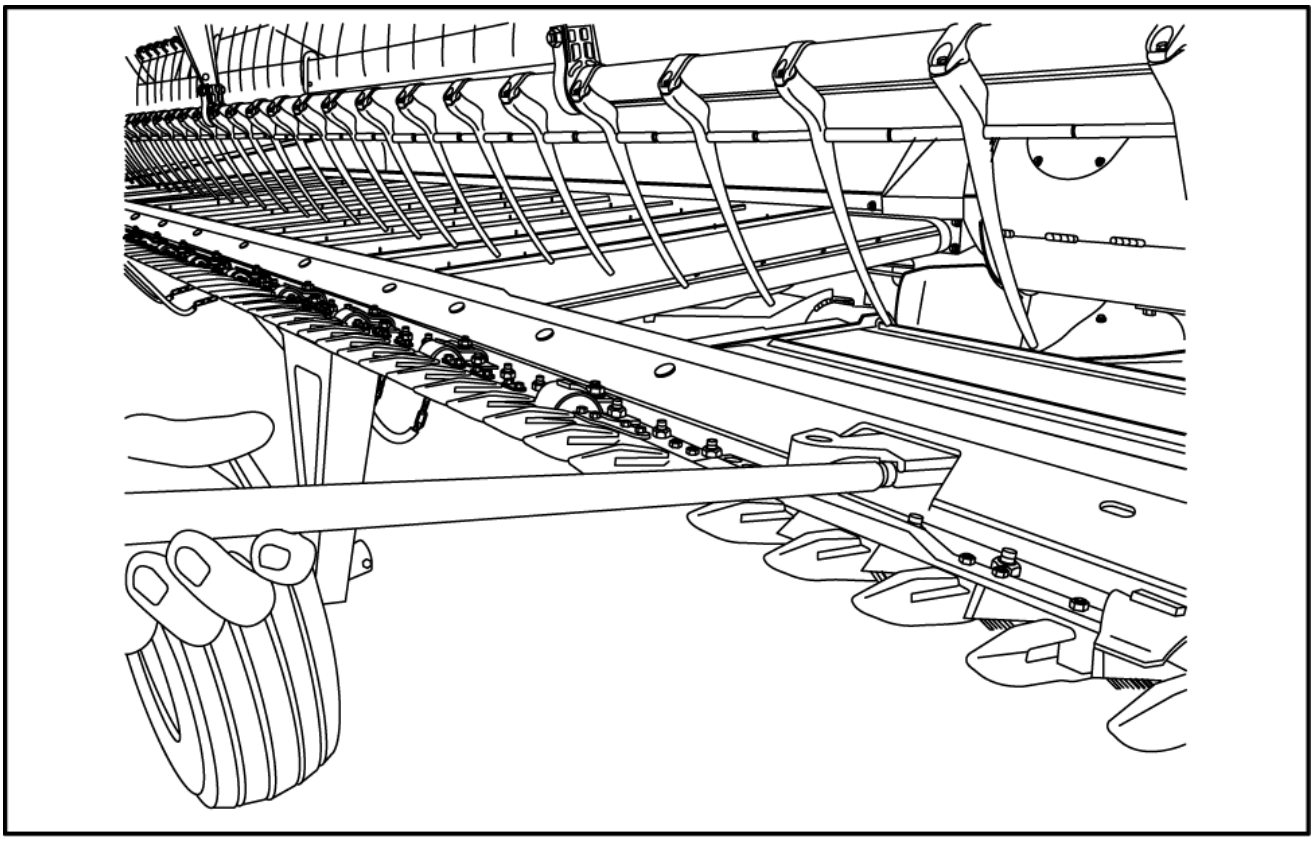
   NOTE: *Ensure center flotation is set equally on both sides.*
6. Adjust remaining turnbuckles if necessary.
7. With indicator at '0', Raise the cutterbar approximately **305 mm** (**12 in**) off of the ground.
8. Press the guard down to the bottom of its range and release.
9. Tip of the guard rebound **5 - 20 mm** (**0.2 - 0.8 in**) above the lowest point.

Cutterbar – Service tool

⚠ WARNING

Cutting hazard!
Keep hands clear of the area between the guards and sickle at all times. ALWAYS wear heavy gloves when handling sickles or working near them.
Failure to comply could result in death or serious injury.

W0421A

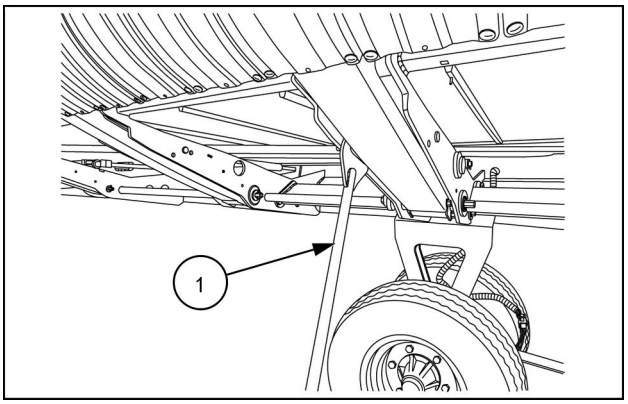


NHIL13GH00068EA 1

Cutterbar service tool

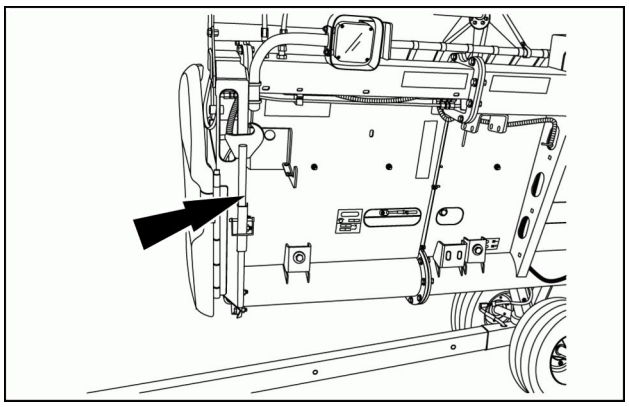
The draper header is equipped with a cutterbar service tool that can be used to move the entire knife assembly for servicing and repairs.

On the other end of the cutterbar service tool is the cutterbar unlock tool **(1)** that can be used to relive pressure on the cutterbar when locking or unlocking the cutterbar.



NHIL14GH00609AA 2

Storage for the tool is provided on the left-hand back sheet of the header.

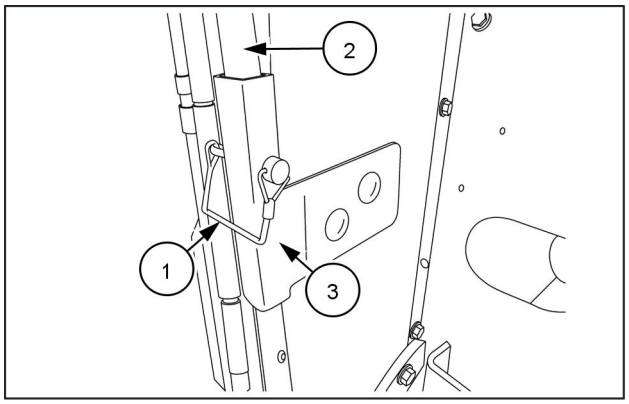


NHIL14GH00599AA 3

Remove

To remove the cutterbar service tool from the storage location:

1. Remove the lynch pin **(1)**.
2. Remove the tool **(2)** from the storage bracket **(3)**.
3. Install the lynch pin in the storage location.

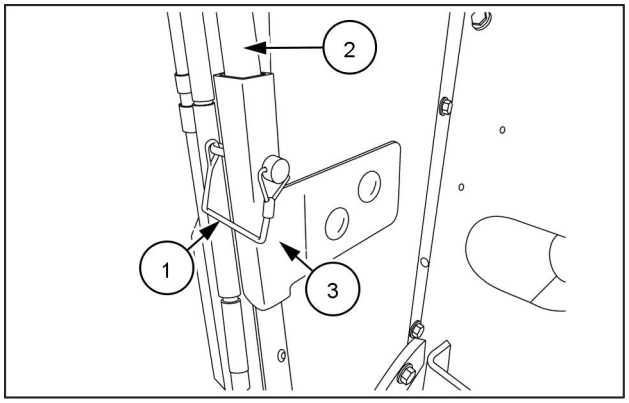


NHIL13GH00064EA 4

Install

To install the cutterbar service tool in the storage location:

1. Remove the lynch pin **(1)** from the storage location.
2. Install the tool **(2)** into the storage bracket **(3)**.
3. Install the lynch pin.

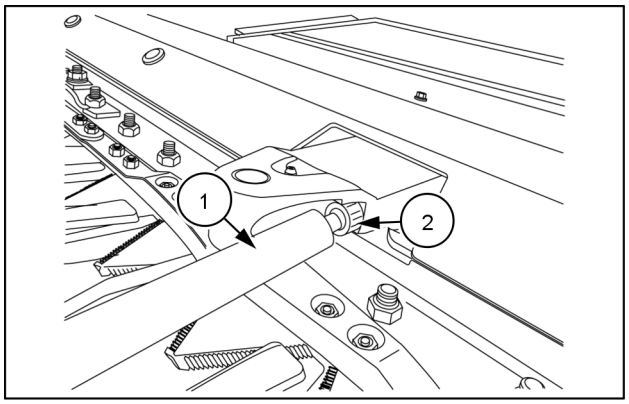


NHIL13GH00064EA 5

Using the tool

1. Insert the tip of the tool **(1)** into the hex bolt **(2)** of the knife drive arm.

   NOTICE: *Make sure the tool is fully inserted into the bolts to prevent the tool from slipping.*

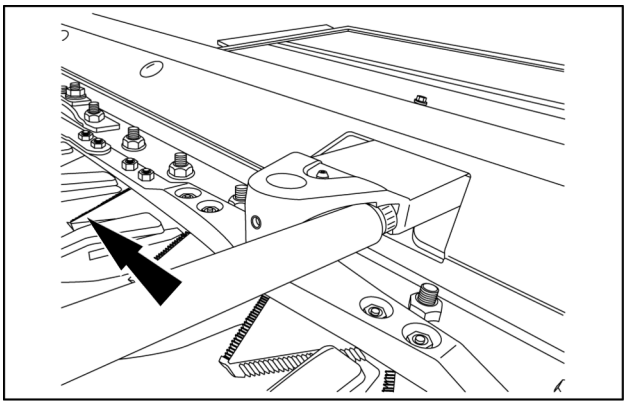


NHIL13GH00067EA 6

1. For greater leverage, grasp the tool as far away from the cutterbar as possible.
2. Move the tool towards the knife drive arm.
3. Move the knife section to the desired position.

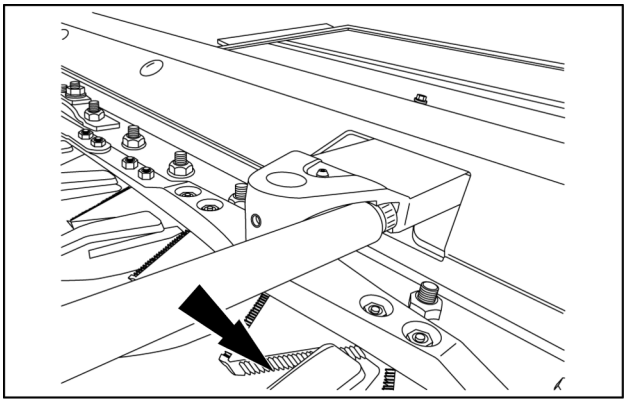
   NOTICE: *Do not move the tool away from the knife drive arm or the tip of the tool will be damaged.*

Correct



NHIL13GH00066EA 7

Incorrect

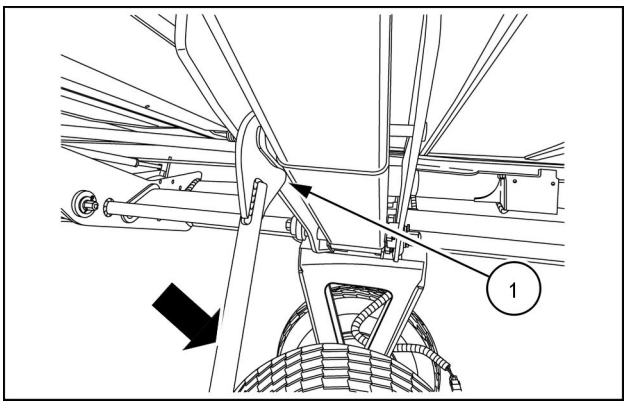


NHIL13GH00066EA 8

To use the cutterbar unlock tool, proceed as follows:

1. To lock or unlock the cutterbar, wrap the hook of the cutterbar unlock tool around the latch.

   NOTE: *Makes sure that the hook completely seats around the hook to prevent slippage. The angle* ***(1)*** *on the hook should lever against the cutterbar arm.*
2. Pry downward to relieve pressure on the cutterbar and move the pin to the desired position.

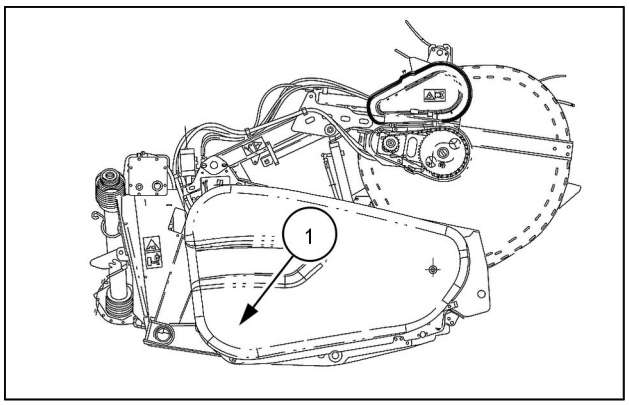


NHIL14GH00610AA 9

Knife

Spare knife

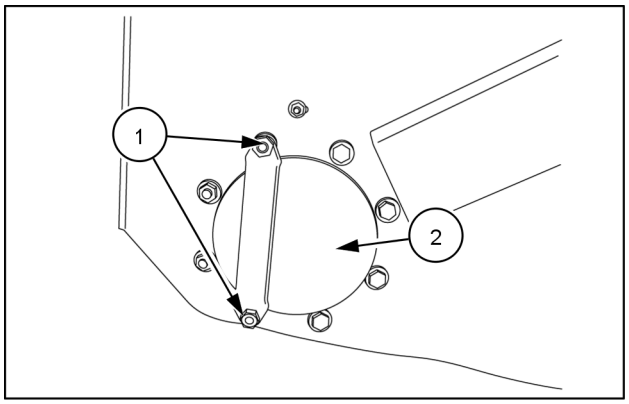
An upper-serrated knife is stored in the header frame tube at **(1)**.



83112553 1

To access the spare knives proceed as follows;

1. Open the right-hand side shield.
2. Remove the two nuts **(1)**.
3. Remove the cover **(2)** to reach the spare knife.



83112596 2

Knife hold-down clips

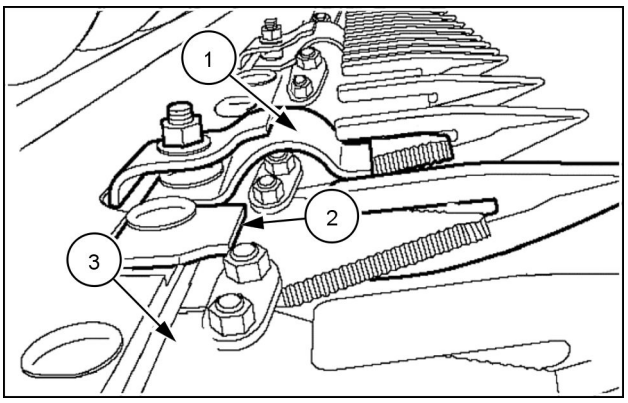
⚠ WARNING

Avoid injury! Always do the following before lubricating, maintaining, or servicing the machine.
1. **Disengage all drives.**
2. **Engage parking brake.**
3. **Lower all attachments to the ground, or raise and engage all safety locks.**
4. **Shut off engine.**
5. **Remove key from key switch.**
6. **Switch off battery key, if installed.**
7. **Wait for all machine movement to stop.**

Failure to comply could result in death or serious injury.

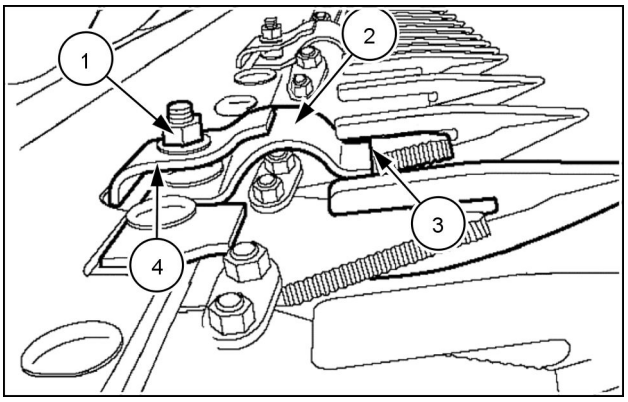
W0047A

1. Adjust the hold-down clips **(1)** with shims at **(2)**. After adjustment, there should be a clearance between **0.1 - 1 mm** (**0.004 - 0.039 in**) at **(3)**.



20086402 1

2. The knife hold-down clips **(2)** must be adjusted with the nut **(1)** from the press bar **(4)** so that there is a clearance of **0.5 - 1 mm** (**0.020 - 0.039 in**) between the clip and the knife at **(3)**.



20086402 2

Finger guard

⚠ WARNING

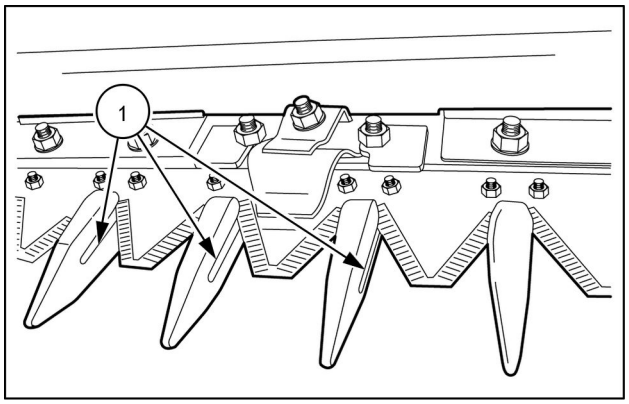
Avoid injury! Always do the following before lubricating, maintaining, or servicing the machine.
1. **Disengage all drives.**
2. **Engage parking brake.**
3. **Lower all attachments to the ground, or raise and engage all safety locks.**
4. **Shut off engine.**
5. **Remove key from key switch.**
6. **Switch off battery key, if installed.**
7. **Wait for all machine movement to stop.**

Failure to comply could result in death or serious injury.

W0047A

NOTICE: *All the finger guards must be lined up so that the knife will have a good shearing action as it slides across the finger ledger plates.*

A new knife or a piece of string placed across the finger ledger plates **(1)** can be used to check the finger guard alignment. Use a pipe or special tool **380000336** over the end of the finger guards to align them. First align any high fingers and then align any low fingers.

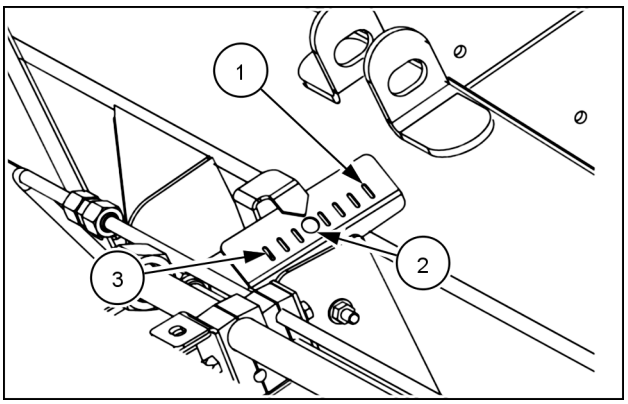


83114737 1

Fore aft tilt

If required, this header can be tilted to raise or lower the front of the header and achieve a better cutterbar angle.

- If the cutterbar is pushing crop over, or if the header is contacting rocks, tilt the header back **(1)**.
- For average conditions, operate with the cutterbar in the middle position **(2)**.
- If the cutterbar is cutting high, or if the back of the header is contacting the ground, tilt the header forward **(3)**.



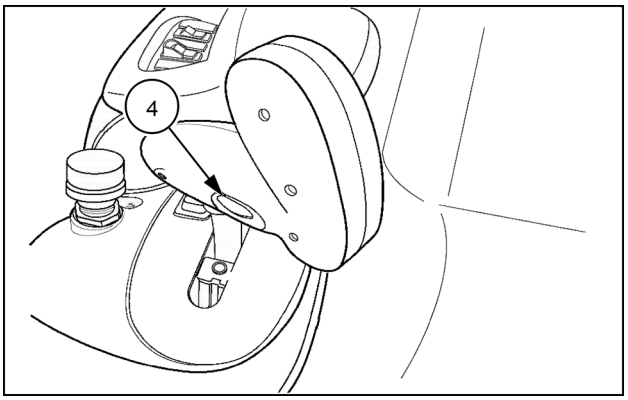
23118622 1

To tilt the header rearward (raise cutterbar)

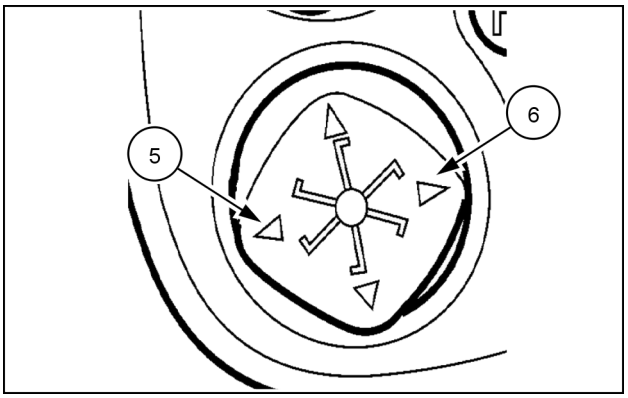
- Hold the shift button **(4)** and press reel aft **(5)**.

To tilt the header forward (lower cutterbar)

- Hold the shift button **(4)** and press reel fore **(6)**.



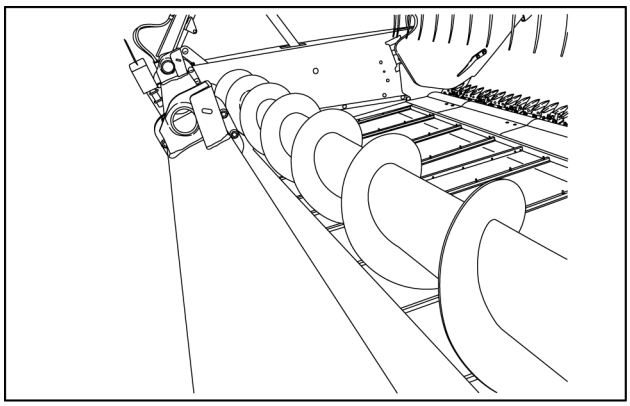
860609412 2



23119069 3

Upper cross auger

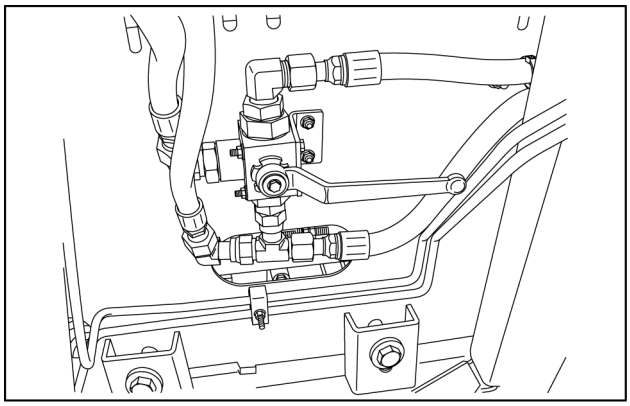
An upper cross auger is useful when crop is tall or bushy to help the side drapers feed the crop into the main feed auger.



83117557 1

The upper cross auger speed is tied to the side draper speed and can only be adjusted by adjusting the side draper speed.
A valve is provided to turn the upper cross auger off in crops and conditions that do not require it.

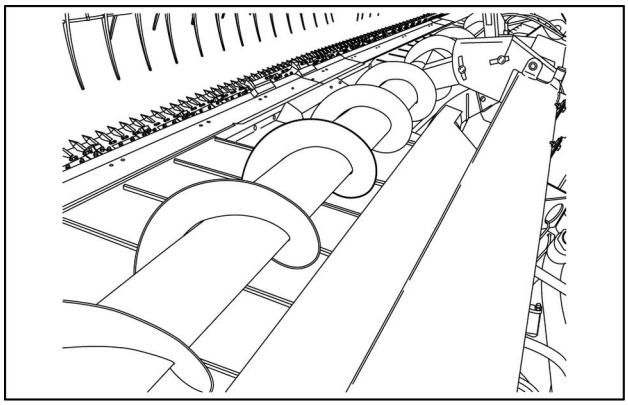
NOTICE: *Do not use the valve to adjust auger speed. Valve must remain in full-on, or full-off position or damage to seals will result.*



83117563 2

Strippers are provided for the cross auger to help crop flow.

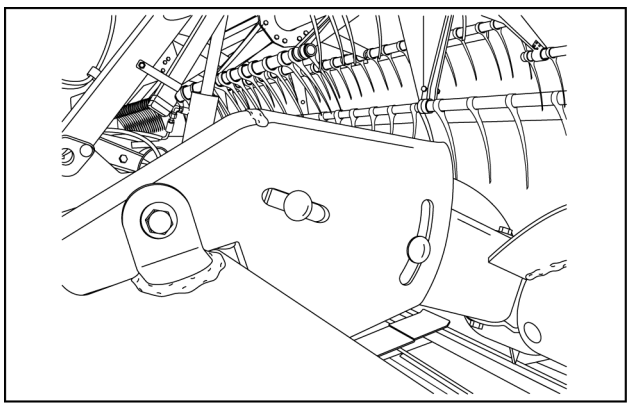
- Slots in the back sheet allow the stripper to be adjusted up and down.
- The strippers should be adjusted after the auger is properly positioned to be no closer than **5 mm** (**0.2 in**) to the auger.



83117556 3

The center of the cross auger is adjustable for different crop conditions.

- The cross auger is set to a nominal position at the factory.
- The cross auger should be adjusted when the reel is in the fully lowered position,
- Clearance should be checked to the reel and the main feed auger
  - Check with fore/aft tilt fully back and main auger float fully up.



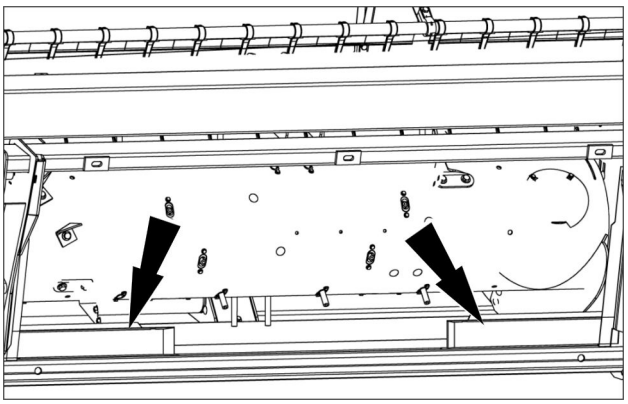
83117564 4

In some conditions it may be necessary to remove the cross auger paddles due to crop wrapping on the auger.

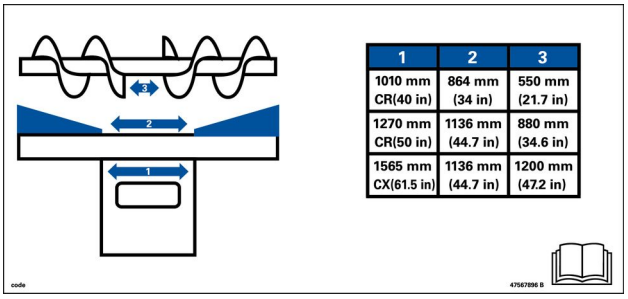
Augers stripper plates

Strippers are used to help direct the crop flow to the center of the combine feeder.

The strippers are available in a narrow kit or wide kit.



23118617 1

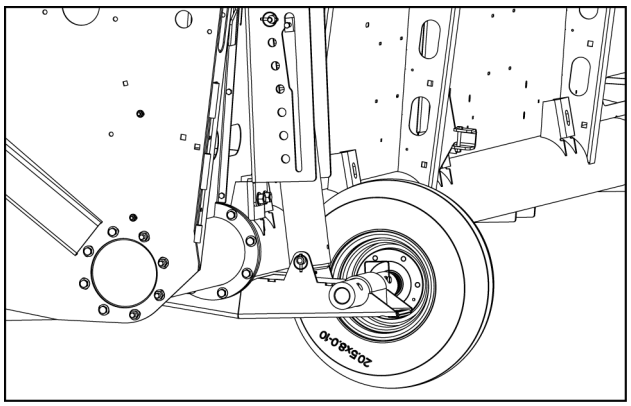


1	2	3
1010 mm CR(40 in)	864 mm (34 in)	550 mm (21.7 in)
1270 mm CR(50 in)	1136 mm (44.7 in)	880 mm (34.6 in)
1565 mm CX(61.5 in)	1136 mm (44.7 in)	1200 mm (47.2 in)

47567896_B 2

Gauge wheels

The purpose of the gauge wheels is to provide header float control to the draper header while cutting crop in rigid mode.
The wheels which are fixed to the header frame act as a cushion for the header.
The wheels can be adjusted to be more stiff or soft depending on crop harvesting requirements.



NHPE12GH00231AA 1

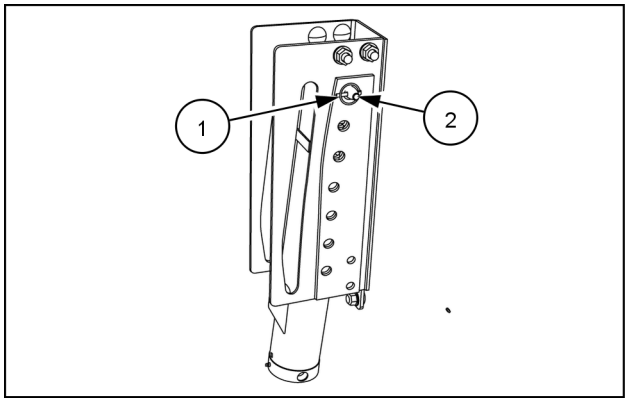
Wheels - Adjust - Working height

⚠ WARNING

Avoid injury! Always do the following before lubricating, maintaining, or servicing the machine.
1. Disengage all drives.
2. Engage parking brake.
3. Lower all attachments to the ground, or raise and engage all safety locks.
4. Shut off engine.
5. Remove key from key switch.
6. Switch off battery key, if installed.
7. Wait for all machine movement to stop.
Failure to comply could result in death or serious injury.

W0047A

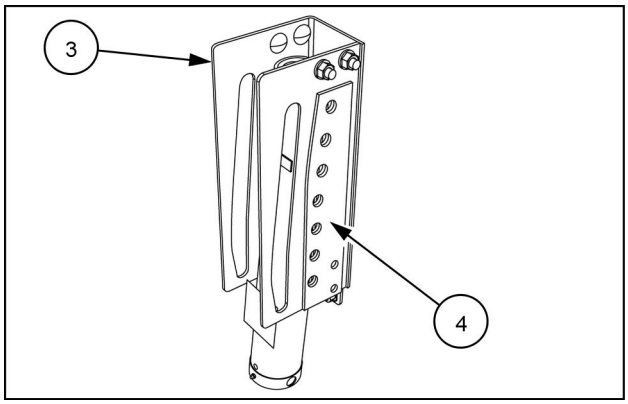
1. Raise header above working height.
2. Remove linch pin **(1)**.
3. Remove taper pin **(2)** and lower the gauge wheel to the ground.



NHIL15GH00382AA 1

4. Lower the header to desired cut height.
5. Observe which holes on the channel **(3)** line up with what hole in the top of the spring assembly **(4)**.
6. Raise header above working height.
7. Manually lift the gauge wheels so that the hole in the top of the spring assembly **(4)** is two holes below the hole observed in step **5**. Insert the tapered pin **(2)** in this hole.
8. Secure taper pin **(2)** in position using linch pin **(1)**.
9. Lower header to working height and observe spring compression in the channel.

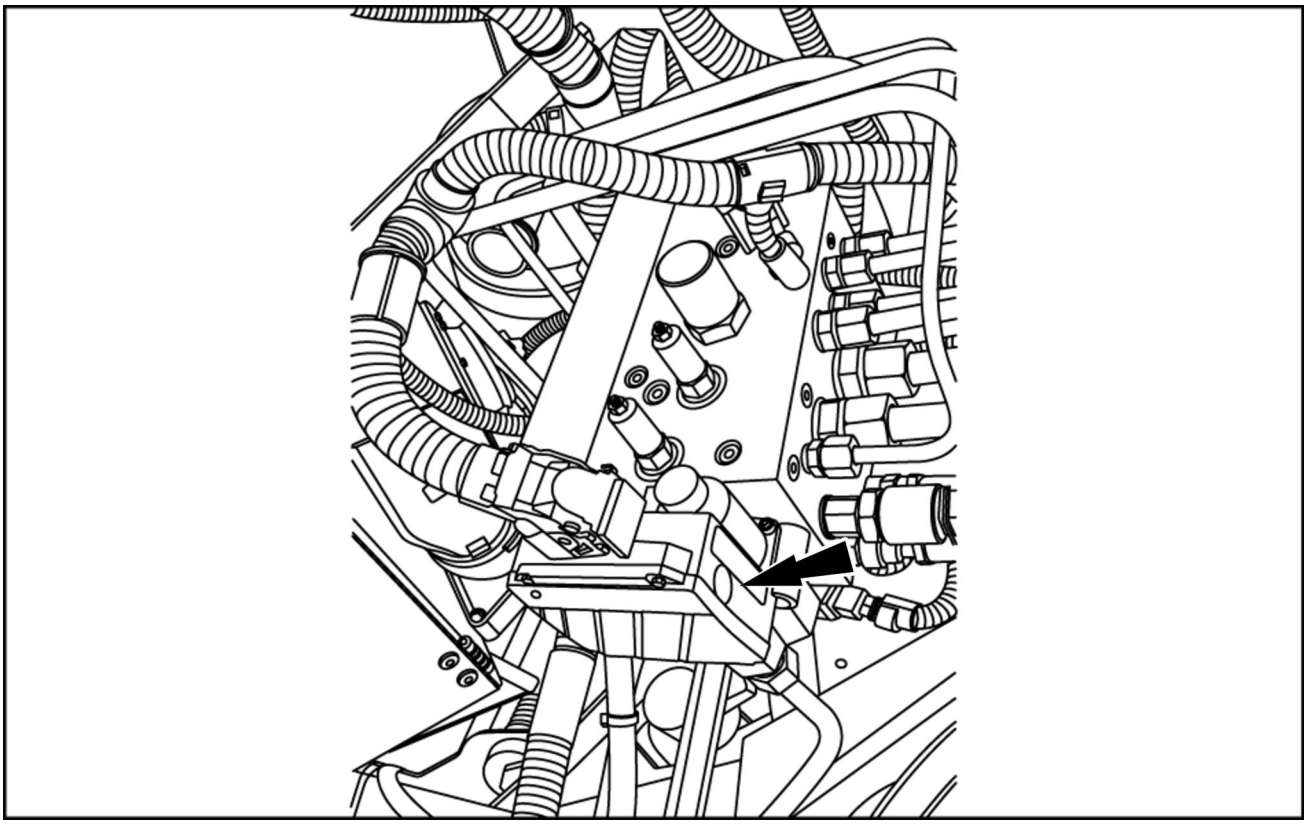
NOTE: *The tapered pin **(2)** should align with the white sticker on the side of **(4)**.*



NHIL15GH00383AA 2

Adjustments and calibration

Automatic Header Height Control (AHHC) – Flex Header



93108148 1

The 10 V system can be identified by the main valve stack on the combine. There is a control module on the bottom of the stack.

For combines with a **10 V** sensing system, you must relocate the electrical connectors and sensor linkages:

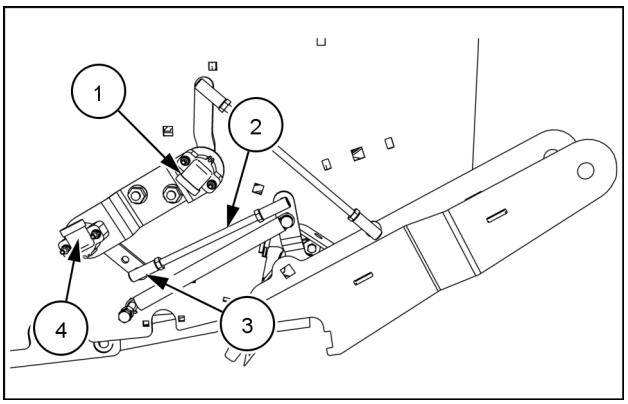
NOTE: *Model year 2016 headers cannot use a **10 V** system.*

NOTE: *Bosch Header Height Control (HHC) is a **10 V** system and require a sensor output between **2.5 V** and **7.5 V**, with a minimum **2 V** difference between up and down.*

1. Ensure electrical connectors labeled "LH HT/TILT" and "RH HT/TILT", are plugged into the bottom sensors **(4)**.

NOTE: *Bosch system only reads 2 sensors. Unused harness plugs may be installed into the top sensors **(1)** for storage.*

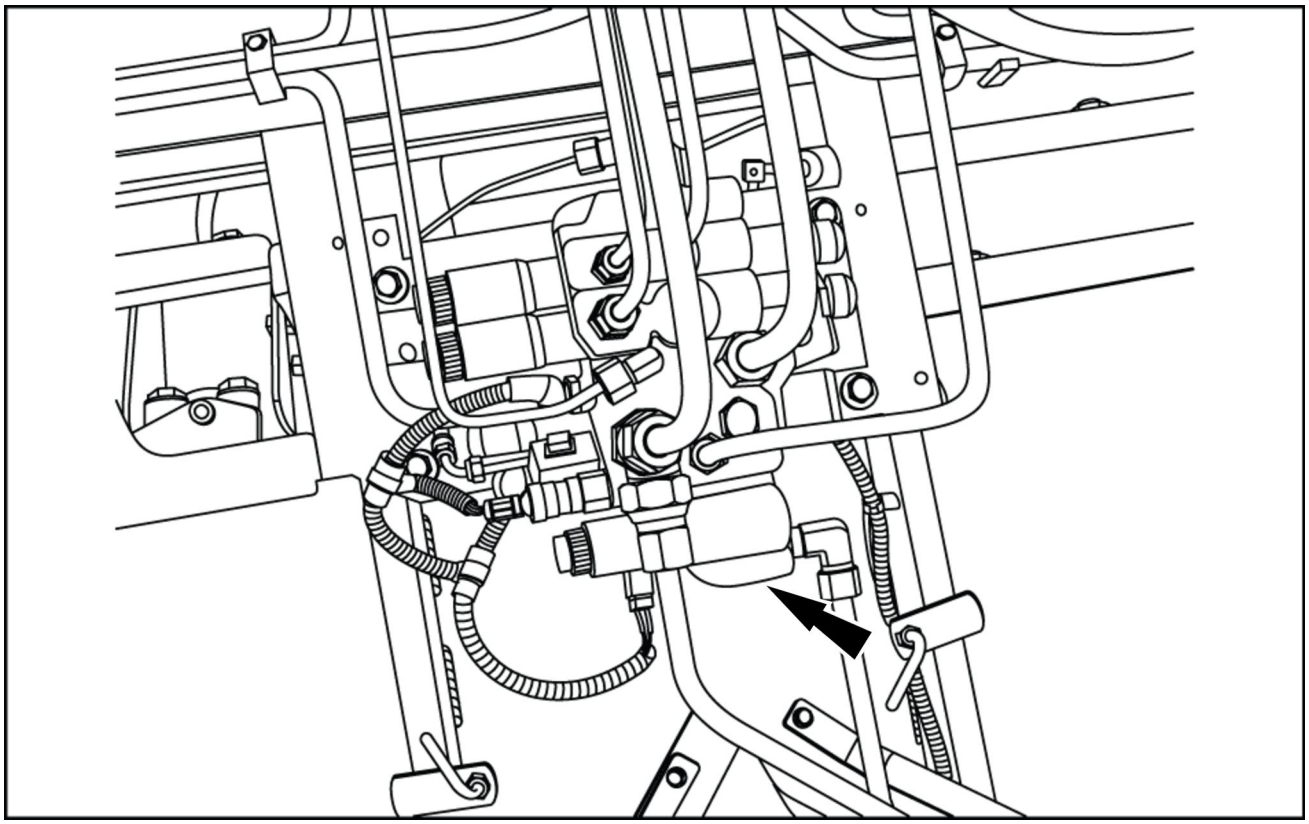
2. Ensure the link rod **(2)** is installed in the bottom mounting hole **(3)** on each side of the header.



NHIL12GH00288AA 2

5 V System

The **5 V** system can be identified by the main valve stack on the combine. There is no control module on the bottom of the stack.



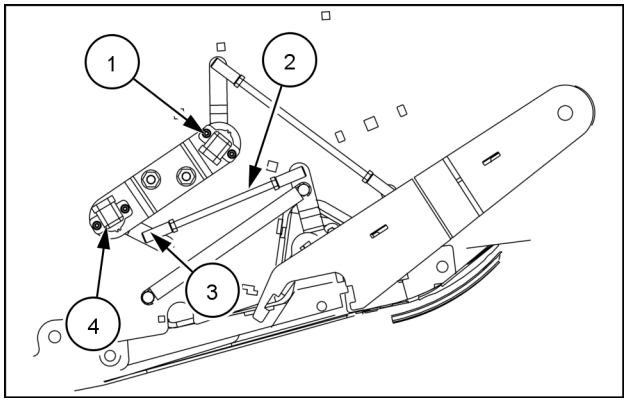
93108149 3

For combines with a **5 V** system:

NOTE: *System requires a voltage output of **0.5 - 4.5 V**, with a minimum **2 V** difference between up and down.*

1. Ensure the electrical connectors labeled "LH HT/TILT" and "RH HT/TILT" are plugged into the top sensors **(1)**.
2. Ensure the electrical connectors labeled "LC HEIGHT" and "RC HEIGHT" are plugged into the bottom sensors **(4)**.
3. Ensure the link rod **(2)** is installed in the top **(3)** mounting hole on both sides of the header.

NOTE: *This is the factory configuration.*

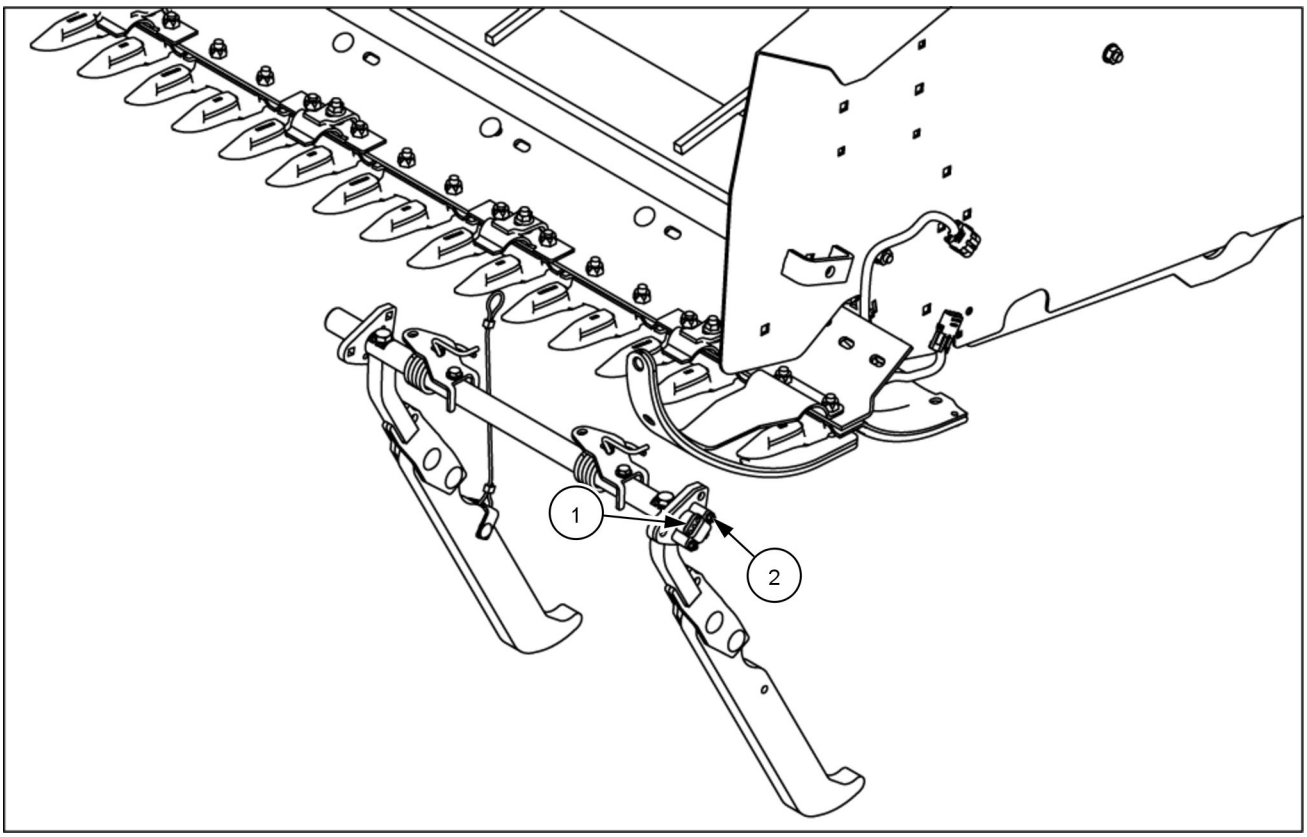


NHIL12GH00270AA 4

Automatic Header Height Control (AHHC) – For Rigid Headers

5 V system requires a voltage output of **0.5 - 4.5 V**, with a minimum **2 V** difference between up and down.

10 V system requires a voltage output of **2.5 - 7.5 V**, with a minimum **2 V** difference between up and down.



NHIL12GH00281AA 1

Outer Sets

1. Make sure the electrical connectors labeled "LH HT/TILT" and "RH HT/TILT" are plugged into the sensors **(1)** and securely connected to the wire harness.

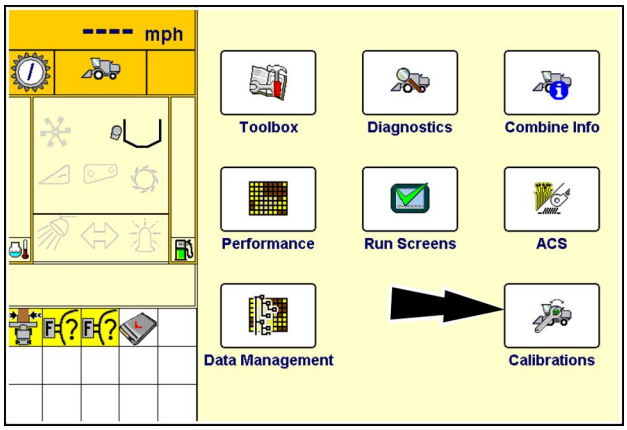
Center Sets

2. Make sure the electrical connectors labeled "LC HEIGHT" and "RC HEIGHT" are plugged into the sensor and securely connected to the wire harness.
3. If a below minimum reading is received, loosen bolts **(2)** and twist the sensor left or right until proper reading is achieved.

NOTE: *This is the factory configuration for rigid headers. A kit is available to install rigid header height control on flex headers.*

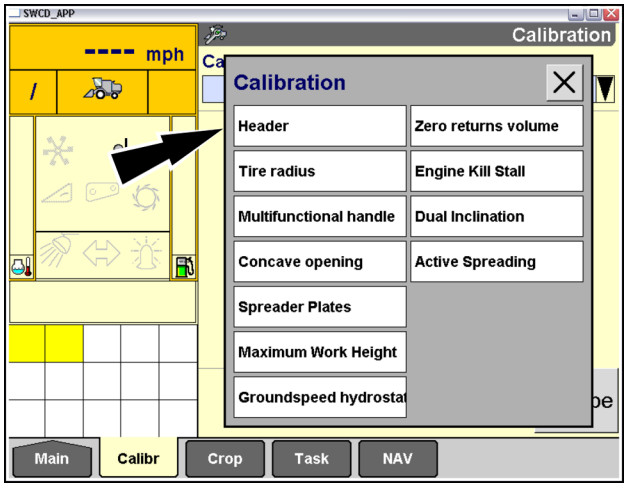
Calibrations - Auto Header Height Control (AHHC)

1. With header on flat, level surface perform the calibration from the monitor:
2. Select Home,
3. Then Calibrations,



20090386A 1

4. Then Header



93108135 2

5. Follow prompts on screen
6. If voltage is outside the range:
   1. Loosen the sensor mounting screws
   2. Rotate the sensor in the direction needed to achieve the correct voltage range
   3. If more adjustment is needed, lengthen or shorten the threaded rod to bring the sensor into range

System voltage	Minimum voltage difference	Sensor range	
		Minimum	Maximum
5 V	**2 V**	**0.5 V**	**4.5 V**
10 V	**2 V**	**2.5 V**	**7.5 V**

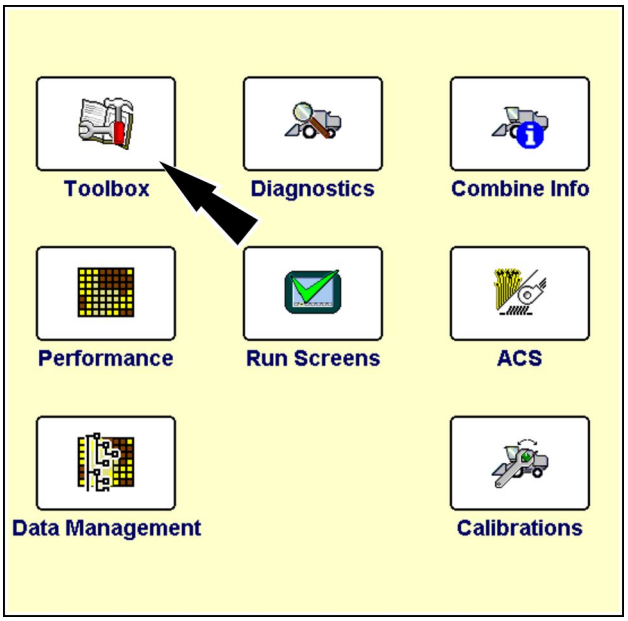
HEADER SETUP

NOTE: *Information here is for reference only. Follow the calibration procedure in your combine manual.*

If the header is equipped with a header recognition sensor and is recognized by the combine, some of the information for the header will be shown in the header configuration screen and these fields will be unchangeable. The rest of the information will need to be entered manually as described here.
If the header is not recognized, it will need to be manually set up. Proper header setup is important for correct operation of the combine as well as with the Precision Farming System.

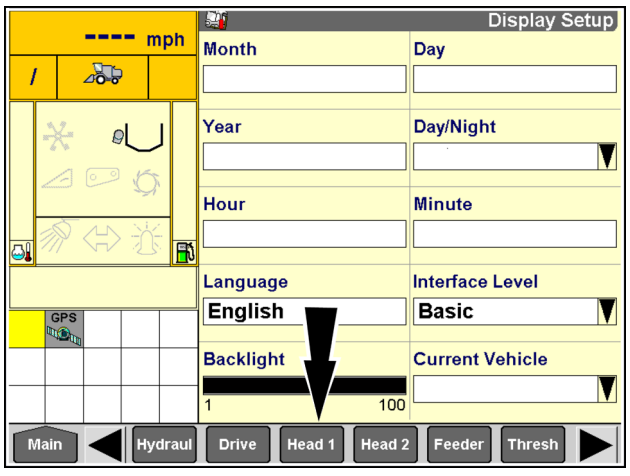
Recommended setting

1. From the home page, select the Tool Box icon.



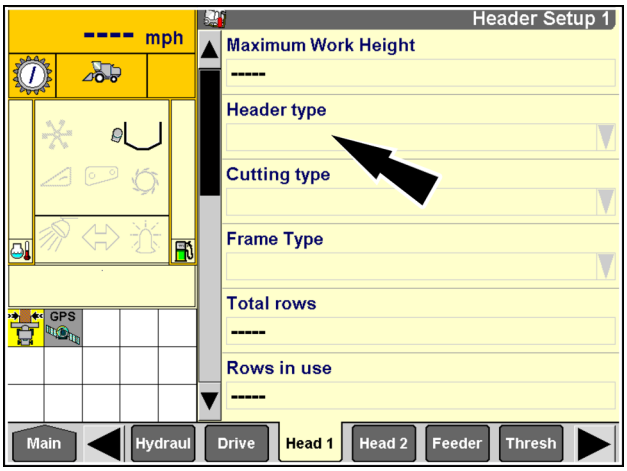
93108139 3

2. Select the Head 1 tab.



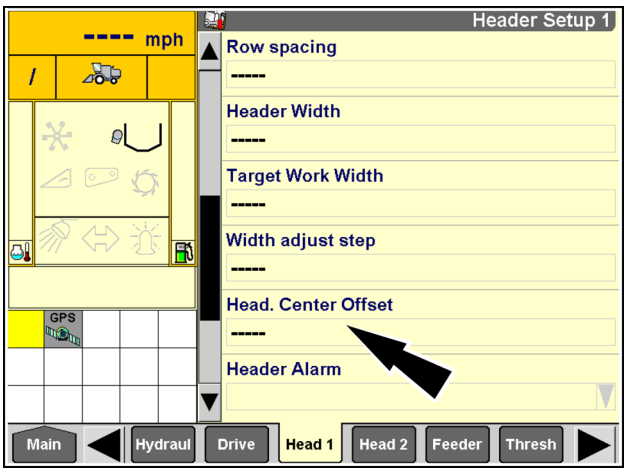
93108140 4

3. Select Header Type. A pop-up window will appear, select Change until Draper/Varifeed appears.



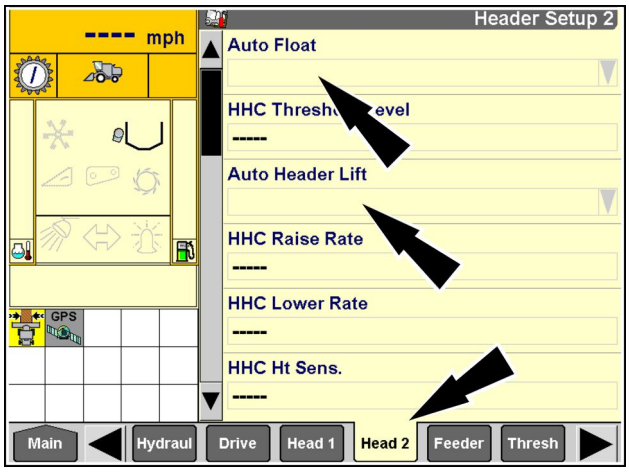
93108141 5

4. Select Header Sub Type. A pop-up window will appear, select 800.
5. Select Cutting Type. A pop-up window will appear, select Platform.
6. Select Frame Type. A pop-up window will appear, select Flex or Rigid depending on operation/header type.
7. Select Head. Center Offset. A numeric keypad will pop-up. Enter 0 for the offset of the header centerline towards combine centerline.



93108142 6

8. Select the Head 2 tab.



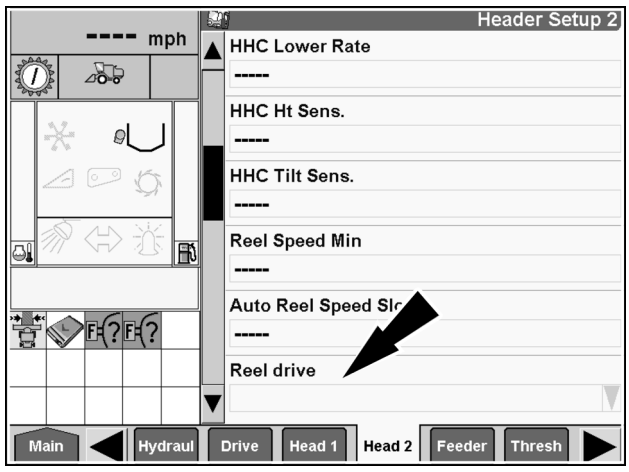
93108144 7

For flex headers:

9. If the cutterbar is to be used in the unlocked mode:
   - Select Auto Float. A pop-up window will appear, select Installed.
10. If the cutterbar is to be used in the locked mode, and a rigid mode header height control kit is installed:
    - Select Auto Float. A pop-up window will appear, select Installed.
11. If the cutterbar is to be used in the locked mode, and a rigid mode header height control kit is not installed:
    - Select Auto Float. A pop-up window will appear, select Not Installed.

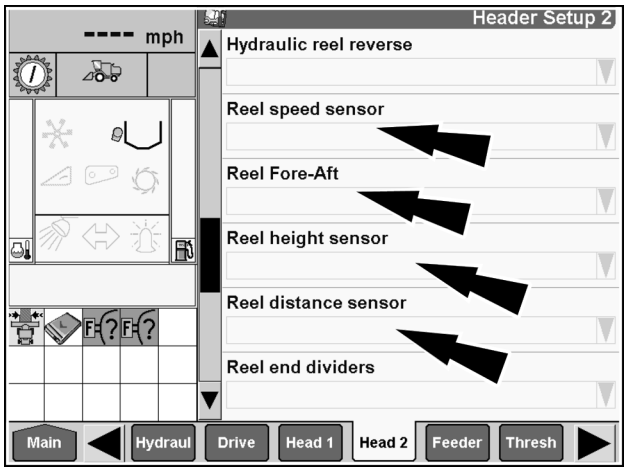
For rigid headers:

12. Select Auto Float. A pop-up window will appear, select Installed.
13. If the header height control feeler arms are locked in the storage position:
    - Select Auto Float. A pop-up window will appear, select Not Installed.
14. Select Auto Header Lift. Select Yes installed.
15. Select the Reel Drive. A pop up window will appear, select Hydraulic.



20092307A 8

16. Select the reel speed sensor. A pop up window will appear, select No (not installed).
17. Select the Reel fore aft. A pop up window will appear, select Yes (installed).
18. Select the Reel Height sensor. A pop up window will appear, select NO (not installed).
19. Select the Reel Distance sensor. A pop up window will appear, select NO (not installed).



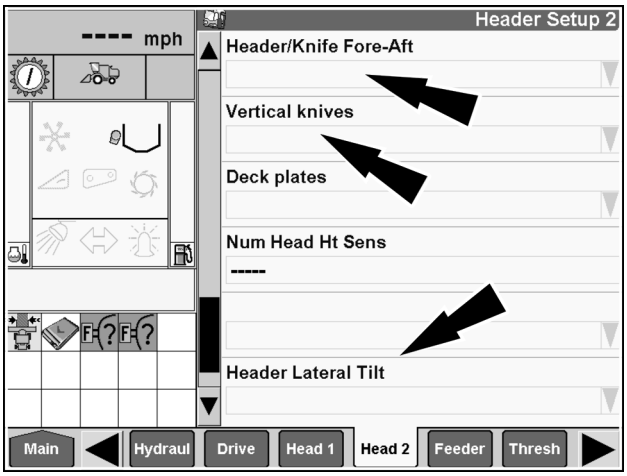
20092308A 9

20. Select the Header/Knife Fore-aft. A pop up window will appear, select Yes (installed).

NOTE: *For some combines with certain software versions, this option will not appear.*

21. Select the Vertical Knives. A pop up window will appear, select No (not installed).
22. Select the Header Lateral tilt. A pop up window will appear, select Yes (installed).

NOTE: *Selecting Yes (installed) will enhance Header Height Control (HHC) reactions.*

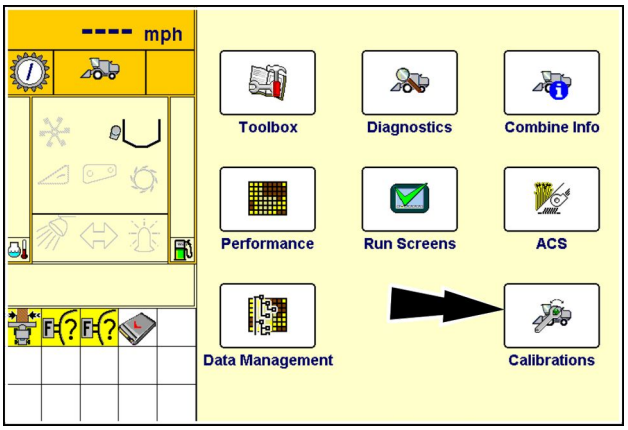


20092309 B 10

23. Select Autotilt: A pop up window will appear, select Yes (installed) or No (not installed).

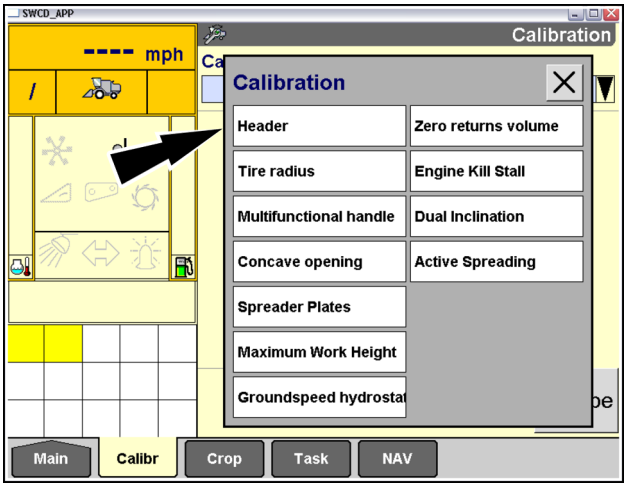
Calibrations - Auto Header Height Control (AHHC)

1. With header on flat, level surface perform the calibration from the monitor:
2. Select Home,
3. Then Calibrations,



20090386A 1

4. Then Header



93108135 2

5. Follow prompts on screen
6. If voltage is outside the range:
   1. Loosen the sensor mounting screws
   2. Rotate the sensor in the direction needed to achieve the correct voltage range
   3. If more adjustment is needed, lengthen or shorten the threaded rod to bring the sensor into range

System voltage	Minimum voltage difference	Sensor range	
		Minimum	Maximum
5 V	**2 V**	**0.5 V**	**4.5 V**
10 V	**2 V**	**2.5 V**	**7.5 V**

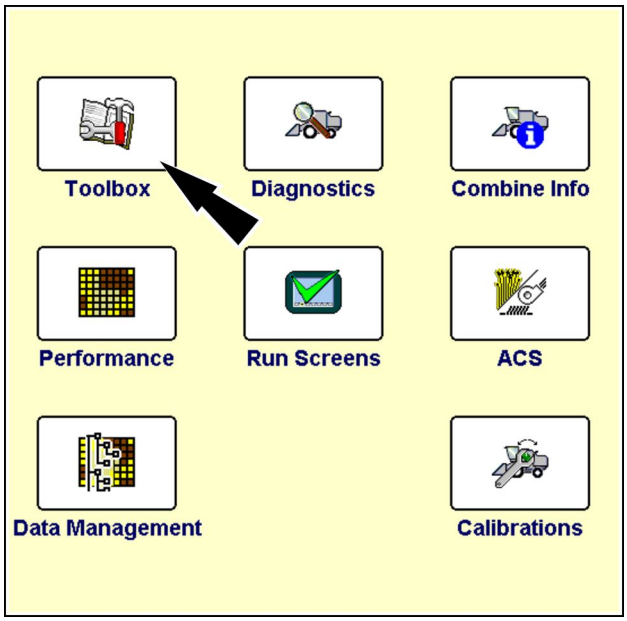
HEADER SETUP

NOTE: *Information here is for reference only. Follow the calibration procedure in your combine manual.*

If the header is equipped with a header recognition sensor and is recognized by the combine, some of the information for the header will be shown in the header configuration screen and these fields will be unchangeable. The rest of the information will need to be entered manually as described here.
If the header is not recognized, it will need to be manually set up. Proper header setup is important for correct operation of the combine as well as with the Precision Farming System.

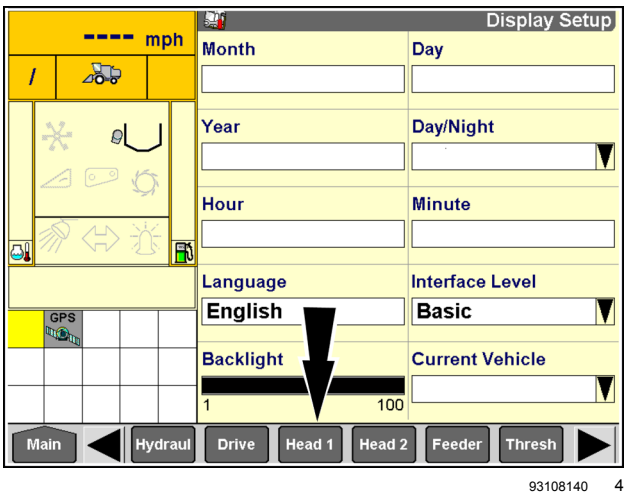
Recommended setting

1. From the home page, select the Tool Box icon.



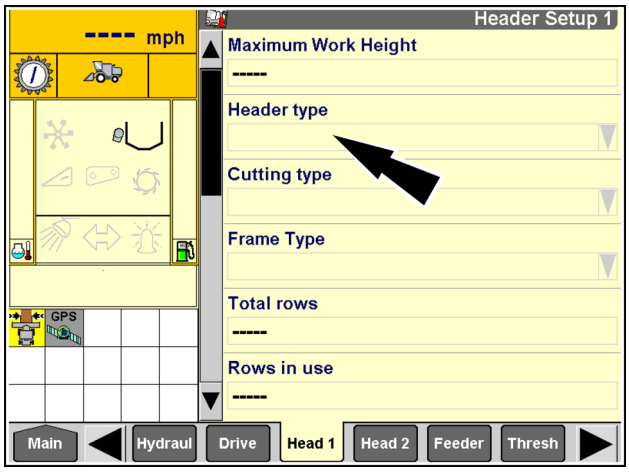
93108139 3

2. Select the Head 1 tab.



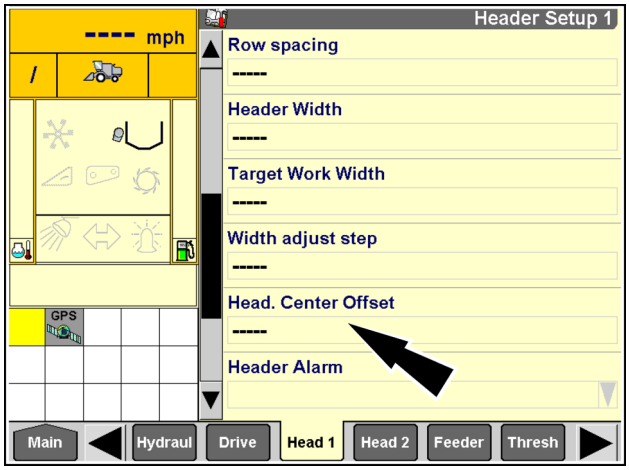
93108140 4

3. Select Header Type. A pop-up window will appear, select Change until Draper/Varifeed appears.



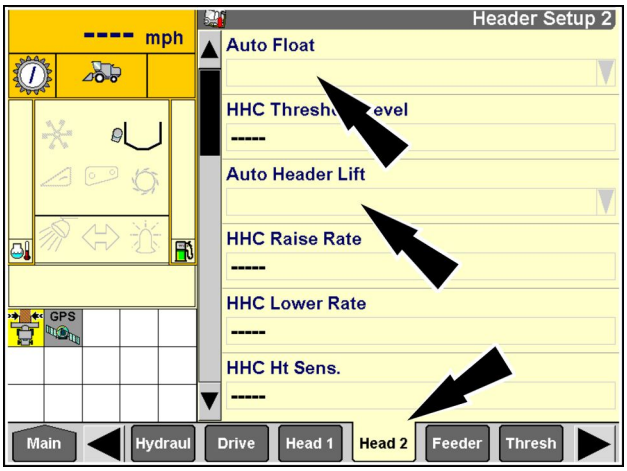
93108141 5

4. Select Header Sub Type. A pop-up window will appear, select 800.
5. Select Cutting Type. A pop-up window will appear, select Platform.
6. Select Frame Type. A pop-up window will appear, select Flex or Rigid depending on operation/header type.
7. Select Head. Center Offset. A numeric keypad will pop-up. Enter 0 for the offset of the header centerline towards combine centerline.



93108142 6

8. Select the Head 2 tab.



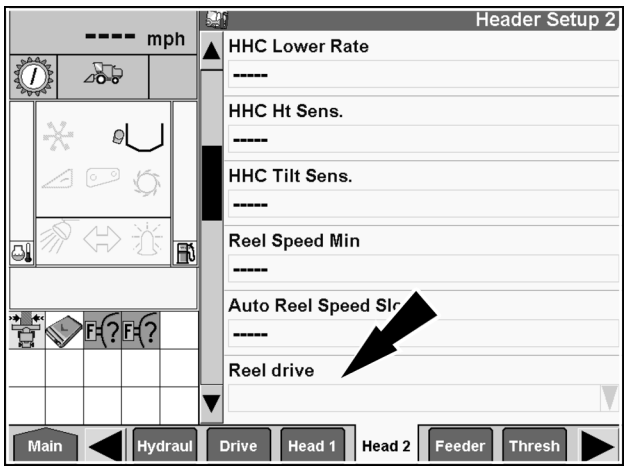
93108144 7

For flex headers:

9. If the cutterbar is to be used in the unlocked mode:
   - Select Auto Float. A pop-up window will appear, select Installed.
10. If the cutterbar is to be used in the locked mode, and a rigid mode header height control kit is installed:
    - Select Auto Float. A pop-up window will appear, select Installed.
11. If the cutterbar is to be used in the locked mode, and a rigid mode header height control kit is not installed:
    - Select Auto Float. A pop-up window will appear, select Not Installed.

For rigid headers:

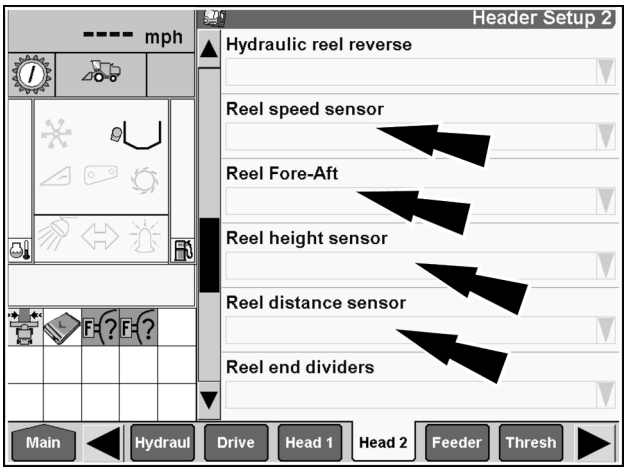
12. Select Auto Float. A pop-up window will appear, select Installed.
13. If the header height control feeler arms are locked in the storage position:
    - Select Auto Float. A pop-up window will appear, select Not Installed.
14. Select Auto Header Lift. Select Yes installed.
15. Select the Reel Drive. A pop up window will appear, select Hydraulic.



20092307A 8

16. Select the reel speed sensor. A pop up window will appear, select No (not installed).
17. Select the Reel fore aft. A pop up window will appear, select Yes (installed).
18. For Model Year 2015, Select the Reel Height sensor. A pop up window will appear, select Yes (installed).
19. For Model Year 2015, Select the Reel Distance sensor. A pop up window will appear, select Yes (installed).

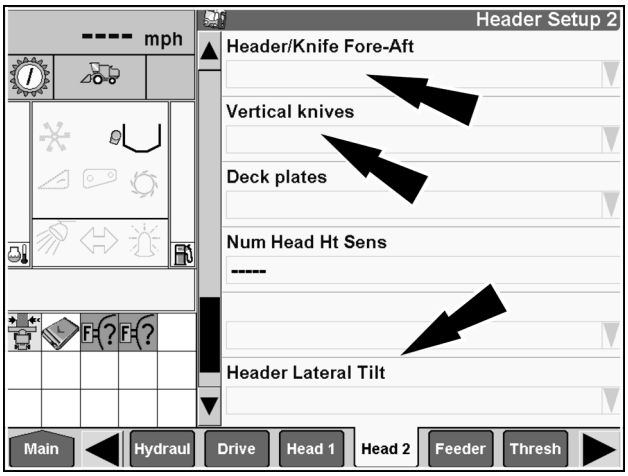
NOTE: *Model Year 2015 headers now have Reel Position sensors installed; Model Year 2014 and Prior headers do not have Reel Position sensors installed.*



20092308A 9

20. Select the Vertical Knives. A pop up window will appear, select No (not installed).
21. Select the Header Lateral tilt. A pop up window will appear, select Yes (installed).

NOTE: *Selecting Yes (installed) will enhance Header Height Control (HHC) reactions.*



20092309 B 10

22. Select Autotilt: A pop up window will appear, select Yes (installed) or No (not installed).

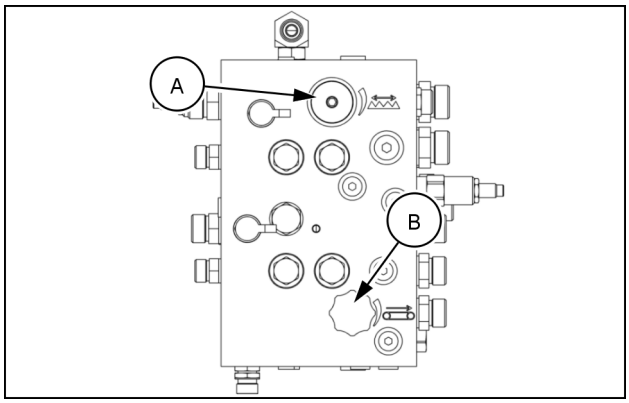
Attachments/Headers

Quick guide - For flex headers

System	Fig	Feature	Recommendation	Comments
Knife drive **5-61**	1	Knife speed is adjustable	Run at maximum speed	Adjust knob counter-clockwise for speed increase
Side draper speed **5-11**	1	Side draper speed is adjustable	Crop dependent. Faster speed will deliver crop to center. Slower speed will feed edges of feeder better	Adjust knob counter-clockwise for speed increase
Dividers standard **5-1**	2	Height is adjustable	Factory setting — link length = **425 mm** (**17 in**)	Lower divider for down/lodged crop
Cutterbar setting **5-24**	3	Flex range is **152 mm** (**6 in**) — controlled from cab	Run in center of flex range	For short beans run in top of range
Cutterbar ground pressure **5-24**	4	Ground pressure is adjustable	Factory settings. If pushing at the cutterbar, decrease ground pressure	Adjust bolts to set ground pressure. Clockwise decreases ground pressure
Reel position eye bolts **5-7**	5,6	Vertical eyebolt adjustment	With cutterbar locked up reel should be **50 mm** (**2.0 in**) above knife	If reel is set to low it will cut off tines
Reel height **5-60**		Hydraulic adjust from cab	Position reel to push crop onto draper. For short crop lower reel. For taller crops raise reel	Must run reel low enough to properly move crop onto belts
Reel fore/ aft **5-60**	6	Hydraulic adjust from cab	Position reel to push crop onto draper. Position 5 recommended for flex draper	Must run reel forward enough to properly move crop onto belts
Header fore/aft tilt **5-35**	7	Hydraulic adjust from cab	Position to the ‘3’ on the indicator decal	Tilt forward for cutting lower but may induce pushing. Tilt rearward for higher cut and may reduce pushing
Auger fingers **5-20**	8	Finger timing can be adjusted	Factory setting — Finger should be adjusted to **115 mm** (**4.50 in**) from the floor	Adjust counter-clockwise for earlier crop disengage. Adjust clockwise for longer crop engagement
Header height control		Four ground sensors	Adjust from cab — user preference	See header and combine Operator’s Manuals

Figures

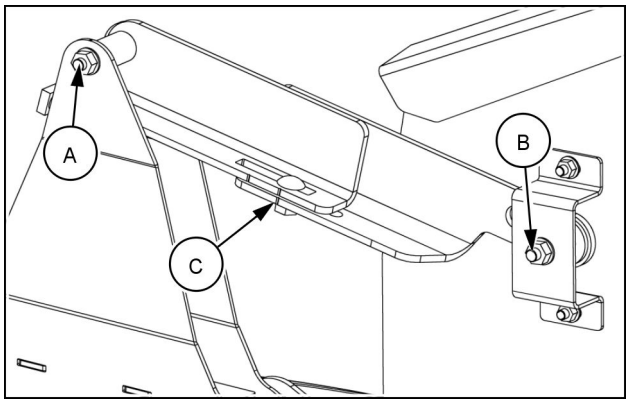
1



23118603 1

Knife speed knob **(A)**.
Side draper speed knob **(B)**.

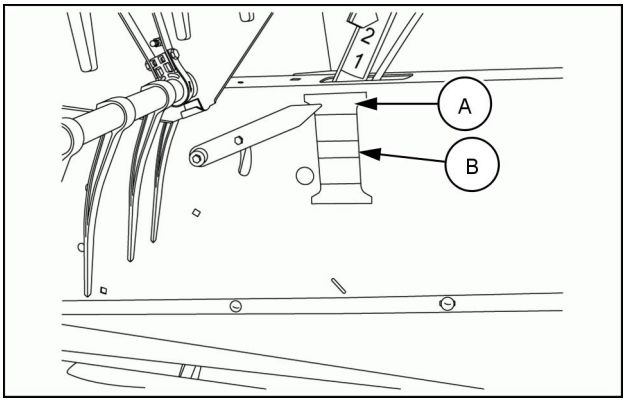
2



23118624 2

Factory setting between points **(A)** and **(B)** is **425 mm** (**16.7 in**).
Use alignment notch **(C)** for factory setting.

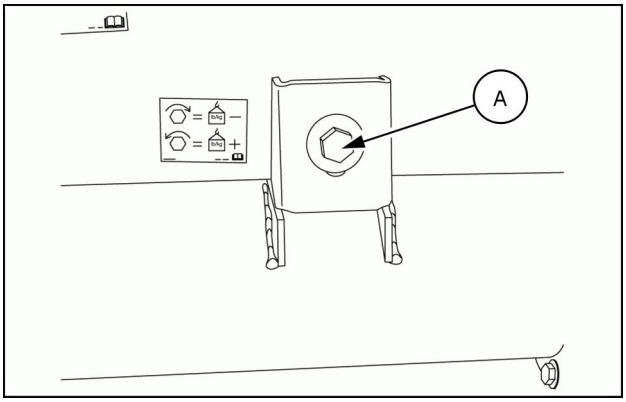
3



NHIL14GH00588AA 3

Short crop setting **(A)**.
Normal crop setting **(B)** (black area).

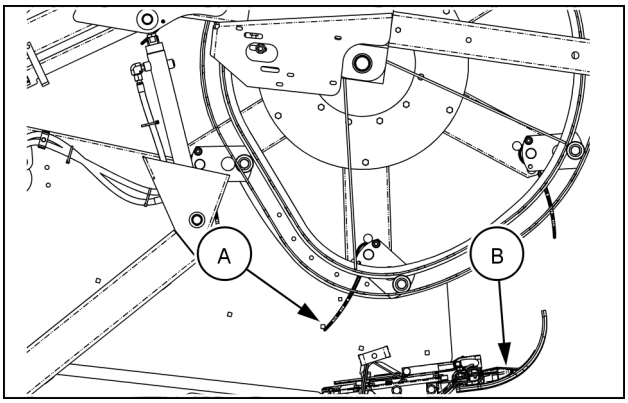
4



NHIL14GH00589AA 4

Turn bolt **(A)** clockwise to decrease pressure
Turn bolt **(A)** counter-clockwise to increase pressure.

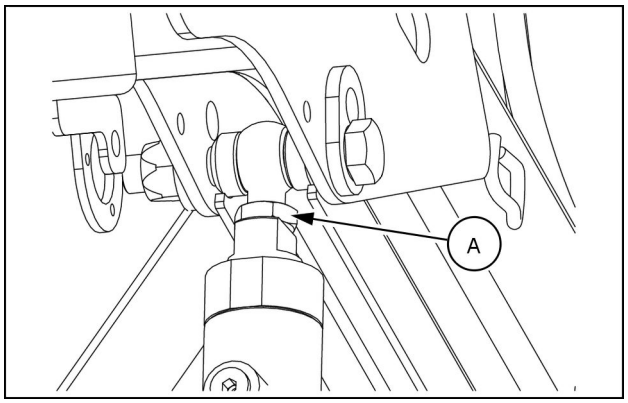
5



23118623 5

Reel tine **(A)** to cutterbar **(B)** clearance should be **50 mm** (**2 in**).

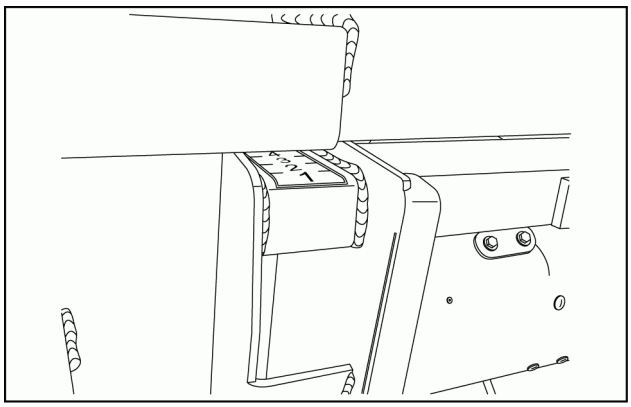
6



NHIL14GH00513AA 6

Turn adjustment bolt **(A)** to achieve proper tine to cutterbar clearance.

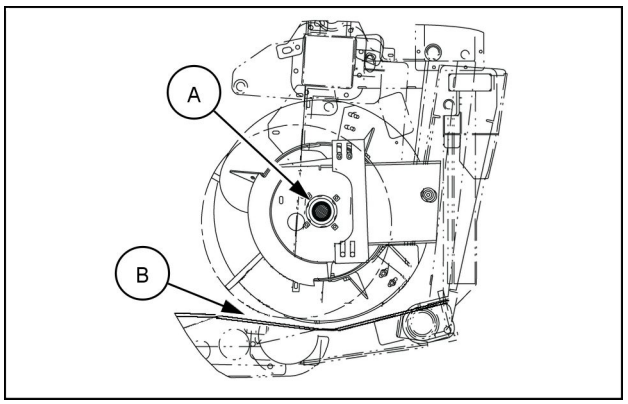
7



NHIL14GH00595AA 7

Fore/Aft tilt indicator (Mid range).
Position on the ’3’ on the indicator decal.

8



83112544 8

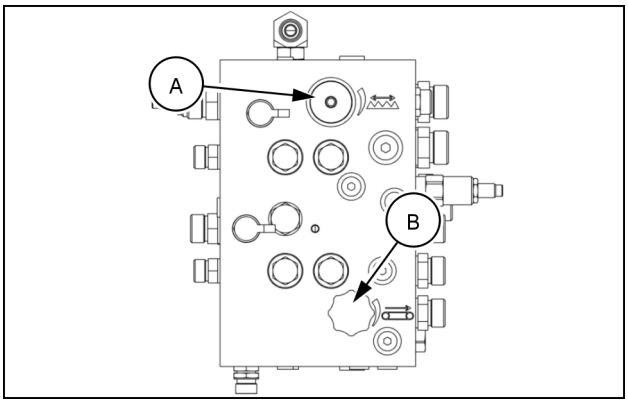
Adjusting bracket **(A)**.
Clearance **(B)** is **115 mm** (**4.50 in**).

Quick guide - For rigid headers

System	Fig	Feature	Recommendation	Comments
Knife drive **5-61**	1	Knife speed is adjustable	Run at maximum speed	Adjust knob counter-clockwise for speed increase
Side draper speed **5-11**	1	Side draper speed is adjustable	Crop dependent. Faster speed will deliver crop to center. Slower speed will feed edges of feeder better	Adjust knob counter-clockwise for speed increase
Dividers standard **5-1**	2	Height is adjustable	Factory setting — link length = **425 mm** (**17 in**)	Lower divider for down/lodged crop
Reel position eye bolts **5-7**	3,4	Vertical eyebolt adjustment	With cutterbar locked up reel should be **50 mm** (**2.0 in**) above knife	If reel is set to low it will cut off tines
Reel height **5-60**		Hydraulic adjust from cab	Position reel to push crop onto draper. For short crop lower reel. For taller crops raise reel	Must run reel low enough to properly move crop onto belts
Reel fore/aft **5-60**	4	Hydraulic adjust from cab	Position reel to push crop onto draper. Position 5 recommended for rigid draper	Must run reel forward enough to properly move crop onto belts
Header fore/aft tilt **5-35**	5	Hydraulic adjust from cab	Position on the '3' on the indicator decal	Tilt forward for cutting lower but may induce pushing. Tilt rearward for higher cut and may reduce pushing
Auger fingers **5-20**	6	Finger timing can be adjusted	Factory setting — Finger should be adjusted to **115 mm** (**4.50 in**) from the floor	Adjust counter-clockwise for earlier crop disengage. Adjust clockwise for longer crop engagement
Header height control		Four ground sensors	Adjust from cab — user preference	See header and combine Operator's Manuals

Figures

1



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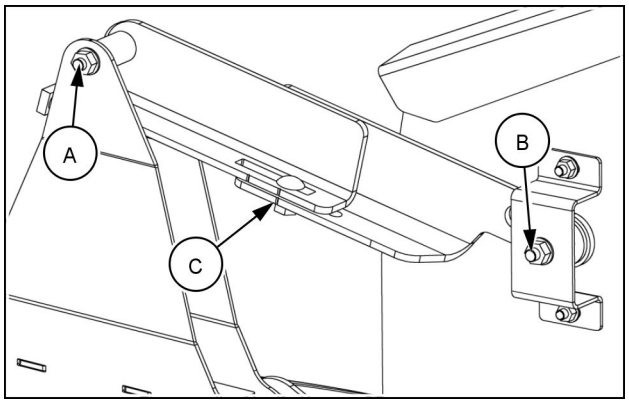
Knife speed knob **(A)**.
Side draper speed knob **(B)**.

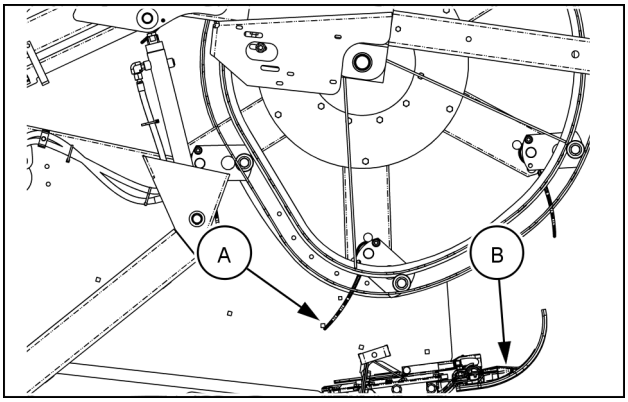
2



23118624 2

Factory setting between points **(A)** and **(B)** is **425 mm** (**16.7 in**).
Use alignment notch **(C)** for factory setting.

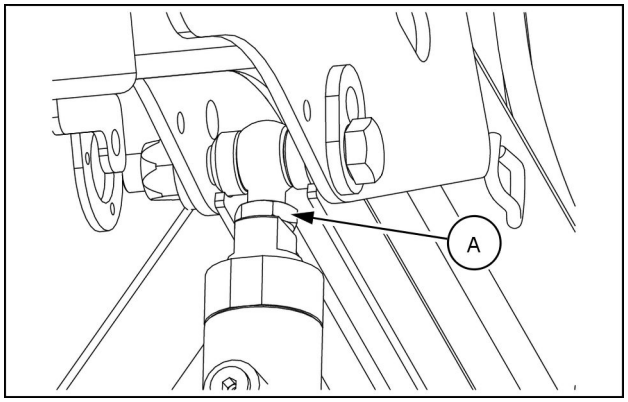
3



23118623 3

Reel tine **(A)** to cutterbar **(B)** clearance should be **50 mm** (**2 in**).

4



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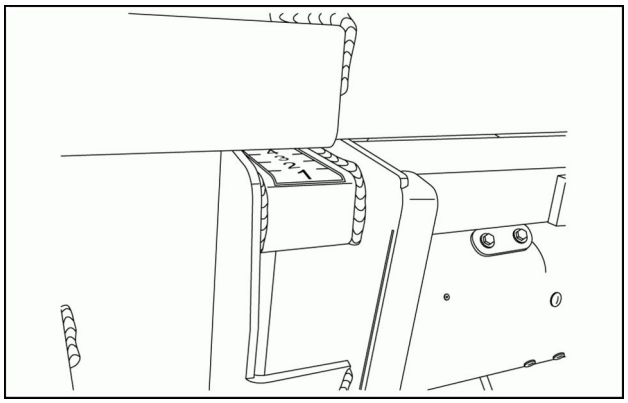
Turn adjustment bolt **(A)** to achieve proper tine to cutterbar clearance.

5



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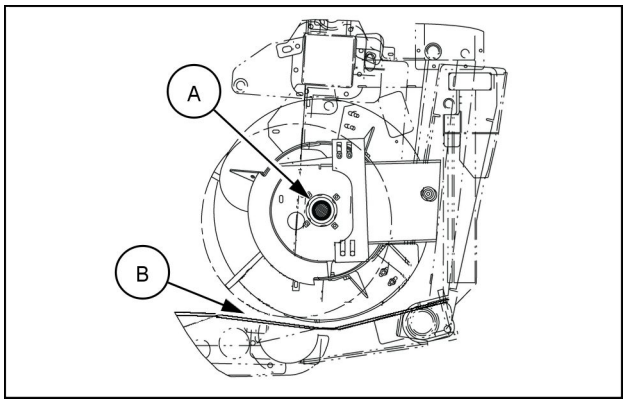
Fore/Aft tilt indicator (Mid range).
Position on the ‘3’ on the indicator decal.

6



83112544 6

Adjusting bracket **(A)**.
Clearance **(B)** is **115 mm** (**4.50 in**).

Initial crop settings

TYPE OF CROP	Optional equipment required	Crop dividers Standard Rod Long	Auger adjustments	Reel
WHEAT		Standard Rod	Auger: **12 mm** (**0.47 in**)	Slightly faster than ground speed Set reel as close as possible to the cross draper Tines vertical
BARLEY		Standard Rod	Auger: **12 mm** (**0.47 in**)	Slightly faster than ground speed Set reel as close as possible to the cross draper Tines vertical
WINTER BARLEY		Standard Rod	Auger: **12 mm** (**0.47 in**)	Slightly faster than ground speed Set reel as close as possible to the cross draper Tines vertical
RYE		Standard Rod	Auger: **12 mm** (**0.47 in**)	Slightly faster than ground speed Set reel as close as possible to the cross draper Tines vertical
OATS		Standard Rod	Auger: **12 mm** (**0.47 in**)	Slightly faster than ground speed Set reel as close as possible to the cross draper Tines vertical
RICE		Standard Rod	Auger and tines as close as possible to header trough	Slightly faster than ground speed Set reel as close as possible to the cross draper Tines vertical
TRITICALE		Standard Rod	Auger: **12 mm** (**0.47 in**)	Slightly slower than ground speed Set reel as close as possible to the cross draper Tines vertical
RAPE SEED		Standard Rod Long	Auger: **20 mm** (**0.78 in**)	Raise reel tines completely Slower than ground speed
GRASS SEED		Standard Rod	Auger: **12 mm** (**0.47 in**)	Speed according to crop conditions
BEANS-PEAS	Crop lifters	Standard Rod Long	Auger: **12 mm** (**0.47 in**)	Speed according to crop conditions
SORGHUM	Sorghum fingers	Standard Rod	Auger: **20 mm** (**0.78 in**)	Speed equal to ground speed Install reel tine flap kit

TYPE OF CROP	Optional equipment required	Crop dividers Standard Rod Long	Auger adjustments	Reel
SAFFLOWER		Standard Rod	Auger: **20 mm** (**0.78 in**)	Speed a little faster than the ground speed
SOY BEANS		Standard Rod Long	Auger: **20 mm** (**0.78 in**)	Speed equal to ground speed Install reel tine flap kit
SUNFLOWER	Dished plates on header front	Standard Rod	Auger: **20 mm** (**0.78 in**)	Remove each second tine bar Install reel tine flap kit
Automatic Feeder Speed should NOT be used with this flex head.				

Reel Overview

Speed

Too fast can cause bats to shatter the grain or cause the crop to wrap around the bat or carry over

Standing crops:

- Reel speed should be slightly faster than the forward speed of the combine, so that the reel sweeps the crop across the cutter bar.

Semi-laid crops:

- Reel speed should be equal to or slightly faster than the forward speed of the combine

Laid Crops:

- Reel speed should be faster that the forward speed of the combine so that the reel gathers the crop to the knife.

Height

Set the reel height so that the bats are just below the lowest grain heads

- If the reel is too low, the heads will hang across the bats and be carried around the reel.
- If the reel is too high, the bats will shatter the grain.
- In down crops, set the reel low enough to lift the crop and sweep the crop through the knife and on to the cross drapers.

Fore/Aft position

Standing or Tall crops:

- Adjust the reel position up and rearward as required.

Down or Short crops:

- Adjust the reel position down and forward as required.

Ground Speed Effect:

- Generally, adjust the reel position forward as combine ground speed increases.

Cutterbar - Adjust mechanical flotation

Adjust flotation springs as described in **5-24**.

Increasing tension in flotation springs reduces ground pressure from the cutterbar.

Decreasing tension in flotation springs increases ground pressure from the cutterbar.

Ground pressure too high:

- If the cutterbar skids are pushing dirt and trash, the ground pressure is too high.
- Spring tension should be increased to provide more lift to the cutterbar.

Ground pressure too low:

- If the cutterbar rides up over stubble, bounces excessively, or will not float down in low spots, the ground pressure is too low.
- Spring tension should be decreased to provide less lift to the cutterbar.

Be sure to differentiate between cutterbar flotation and combine Automatic Header Height Control (AHHC) performance.

- Check cutterbar with combine stopped and stationary to see if cutterbar returns to lowest position.

Recommended settings:

- Adjust the spring so that the flex arms are just off of the downstops.

Cutterbar - Adjust hydraulic flotation

1. Attach the combine hydraulic and electrical connections to the header.
2. From the home page, select the Tool Box icon.
3. Select the Head 1 tab.
4. Select Header Sub Type. A pop-up window will appear, select 800.
5. Select the Head 2 tab.
6. Select the Header/Knife Fore-aft. A pop up window will appear, select Yes (installed).

- Press the shift button and the reel up button simultaneously to increase pressure in the hydraulic float system (indicated by pointer moving to higher number).
- Press the shift button and the reel down button simultaneously to decrease pressure in the hydraulic system (indicated by pointer moving to lower number) .

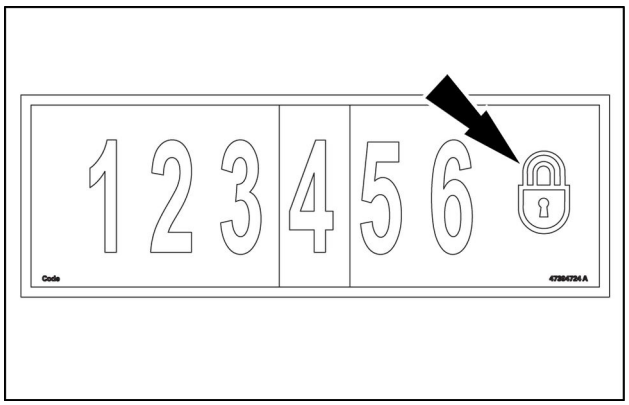
  NOTE: *Make sure feeder position is below 80% or function will not operate.*
- Position the flotation trim cylinder to the #2 position on the decal in the 'green' operating range using the combine hydraulics.

  NOTE: *Indicator should be the in green 'operating range' during operation (#1– #3). To temporarily lock cutterbar, move indicator all the way to the locked symbol.*

To lock the cutterbar in rigid mode:

1. Increase hydraulic pressure until the entire cutterbar raises to the locked position.

   NOTE: *The pressure indicator should be in front of the lock on the decal.*
2. Install locking pins in the flex arms. Refer to **5-24** for procedure.



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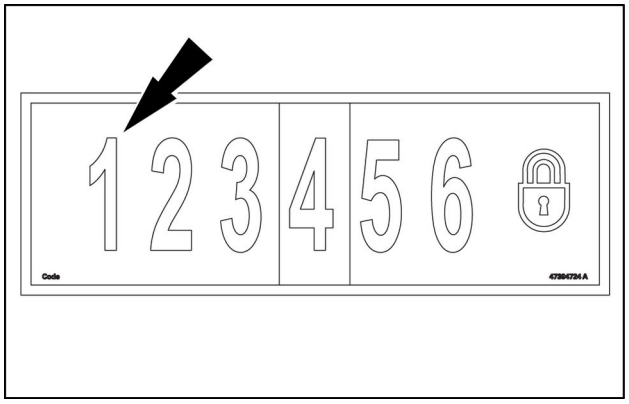
3. Decrease hydraulic pressure until the indicator returns to 1.

   NOTE: *This will prevent premature wear of components.*



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Flex arms can be adjusted individually, to adjust:

4. Raise the header fully and engage feeder safety lock.
5. Using a **25 mm** (**1 in**) wrench, adjust the turnbuckles at each flex arm.

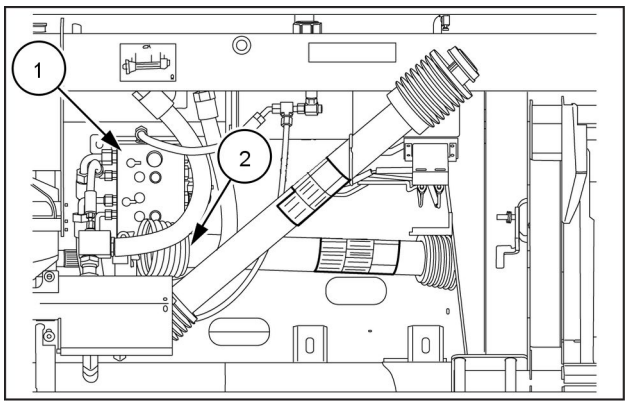
- Shortening the turnbuckle will lighten the cutterbar.
- Lengthening the turnbuckle will make the cutterbar heavier.

NOTICE: *Do NOT extend the turnbuckles past* ***317 mm*** *(****12.5 in****). Damage will result.*

NOTE: *Adjustment of one flex arm will affect neighboring arms.*

Knife speed

The cutterbar speed can be increased or decrease to help prevent knife shatter loss. Adjustments are made at the valve block **(1)** located above the output PTO shaft **(2)**. Unless adjustments are necessary, the knife should be operated at full speed (valve fully open).



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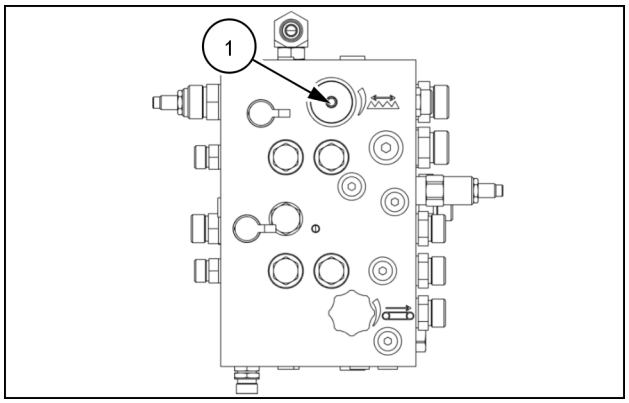
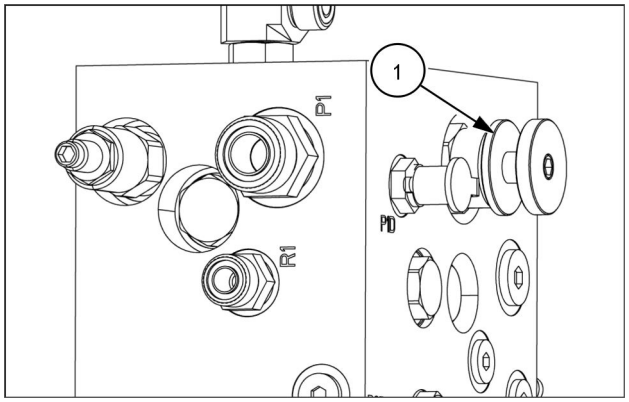
- To increase cutterbar speed, turn knob **(1)** counter clockwise until desired speed is achieved.
- To decrease cutterbar speed, turn knob **(1)** clockwise until desired speed is achieved.



23118603 2

After adjusting the speed, lock the knob by turning secondary dial **(1)** clockwise into the valve until snug.

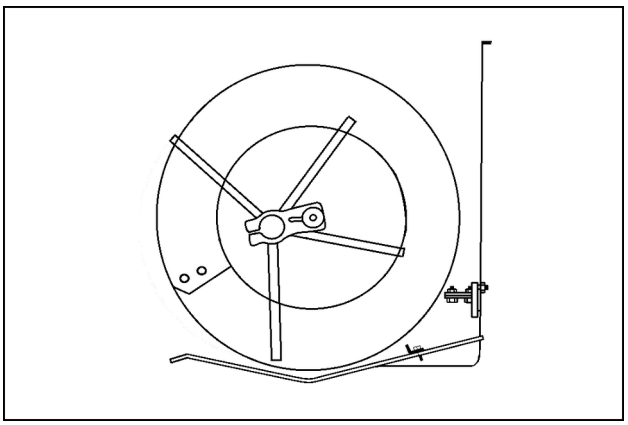


23118605 3

Auger position

Set auger as described in **5-19**.

- For light or short crop, the auger should be set as close to the floor as possible.



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Speed

Speed can be changed by changing the auger driven sprocket.

- 43 tooth sprocket is standard.

Heavy or bulky crops:

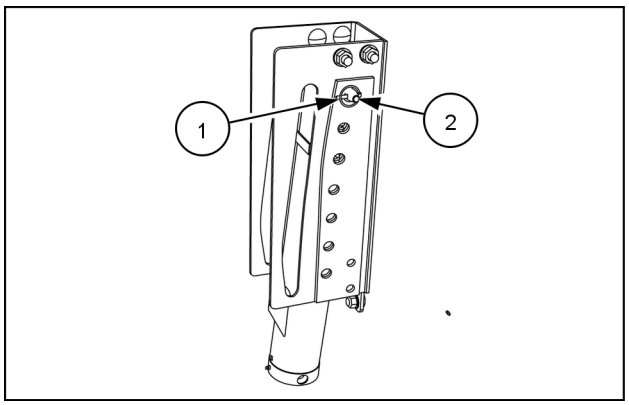
- Header capacity can be increased by increasing auger speed (fewer teeth on driven sprocket).

Light or short crops:

- Reducing auger speed will reduce grain shatter and improve crop flow to the feeder.

Gauge wheels - Working height

1. Raise the header above working height.
2. Remove the linchpin **(1)**.
3. Remove the taper pin **(2)** and allow gauge wheel to fall to the ground.



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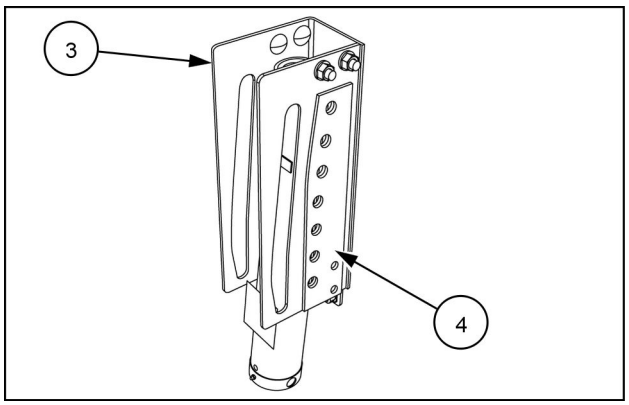
4. Lower the header to desired cut height.
5. Observe which holes on the channel **(3)** line up with the hole in the top of the spring assembly **(4)**.
6. Raise header above working height.
7. Manually lift the gauge wheels so that the hole in the top of the spring assembly **(4)** is two holes below the hole observed in step 5. Insert tapered pin **(2)** in this hole
8. Secure taper pin **(2)** in position using linch pin **(1)**.
9. Lower header to working height and observe spring compression in the channel.

   NOTE: *The tapered pin* ***(2)*** *should align with the white sticker.*



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6 - MAINTENANCE

GENERAL INFORMATION

Torque specifications for hardware - Minimum tightening torques for normal assembly

METRIC NON-FLANGED HARDWARE

NOM. SIZE	CLASS 8.8 BOLT and CLASS 8 NUT		CLASS 10.9 BOLT and CLASS 10 NUT		LOCKNUT CL.8 W/CL8.8 BOLT	LOCKNUT CL.10 W/CL10.9 BOLT
	UNPLATED	PLATED W/ZnCr	UNPLATED	PLATED W/ZnCr		
M4	2.2 N·m (19 lb in)	2.9 N·m (26 lb in)	3.2 N·m (28 lb in)	4.2 N·m (37 lb in)	2 N·m (18 lb in)	2.9 N·m (26 lb in)
M5	4.5 N·m (40 lb in)	5.9 N·m (52 lb in)	6.4 N·m (57 lb in)	8.5 N·m (75 lb in)	4 N·m (36 lb in)	5.8 N·m (51 lb in)
M6	7.5 N·m (66 lb in)	10 N·m (89 lb in)	11 N·m (96 lb in)	15 N·m (128 lb in)	6.8 N·m (60 lb in)	10 N·m (89 lb in)
M8	18 N·m (163 lb in)	25 N·m (217 lb in)	26 N·m (234 lb in)	35 N·m (311 lb in)	17 N·m (151 lb in)	24 N·m (212 lb in)
M10	37 N·m (27 lb ft)	49 N·m (36 lb ft)	52 N·m (38 lb ft)	70 N·m (51 lb ft)	33 N·m (25 lb ft)	48 N·m (35 lb ft)
M12	64 N·m (47 lb ft)	85 N·m (63 lb ft)	91 N·m (67 lb ft)	121 N·m (90 lb ft)	58 N·m (43 lb ft)	83 N·m (61 lb ft)
M16	158 N·m (116 lb ft)	210 N·m (155 lb ft)	225 N·m (166 lb ft)	301 N·m (222 lb ft)	143 N·m (106 lb ft)	205 N·m (151 lb ft)
M20	319 N·m (235 lb ft)	425 N·m (313 lb ft)	440 N·m (325 lb ft)	587 N·m (433 lb ft)	290 N·m (214 lb ft)	400 N·m (295 lb ft)
M24	551 N·m (410 lb ft)	735 N·m (500 lb ft)	762 N·m (560 lb ft)	1016 N·m (750 lb ft)	501 N·m (370 lb ft)	693 N·m (510 lb ft)

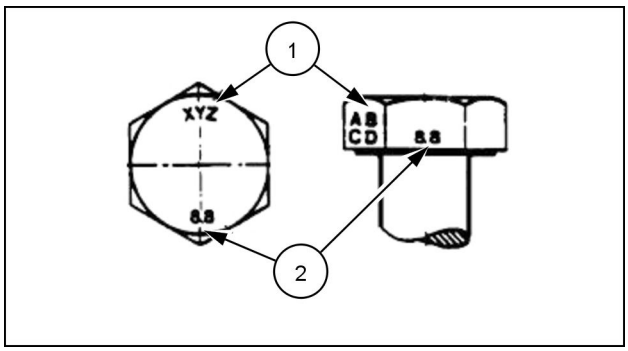
NOTE: *M4 through M8 hardware torque specifications are shown in pound-inches. M10 through M24 hardware torque specifications are shown in pound-feet.*

METRIC FLANGED HARDWARE

NOM. SIZE	CLASS 8.8 BOLT and CLASS 8 NUT		CLASS 10.9 BOLT and CLASS 10 NUT		LOCKNUT CL.8 W/CL8.8 BOLT	LOCKNUT CL.10 W/CL10.9 BOLT
	UNPLATED	PLATED W/ZnCr	UNPLATED	PLATED W/ZnCr		
M4	2.4 N·m (21 lb in)	3.2 N·m (28 lb in)	3.5 N·m (31 lb in)	4.6 N·m (41 lb in)	2.2 N·m (19 lb in)	3.1 N·m (27 lb in)
M5	4.9 N·m (43 lb in)	6.5 N·m (58 lb in)	7.0 N·m (62 lb in)	9.4 N·m (83 lb in)	4.4 N·m (39 lb in)	6.4 N·m (57 lb in)
M6	8.3 N·m (73 lb in)	11 N·m (96 lb in)	12 N·m (105 lb in)	16 N·m (141 lb in)	7.5 N·m (66 lb in)	11 N·m (96 lb in)
M8	20 N·m (179 lb in)	27 N·m (240 lb in)	29 N·m (257 lb in)	39 N·m (343 lb in)	18 N·m (163 lb in)	27 N·m (240 lb in)
M10	40 N·m (30 lb ft)	54 N·m (40 lb ft)	57 N·m (42 lb ft)	77 N·m (56 lb ft)	37 N·m (27 lb ft)	53 N·m (39 lb ft)
M12	70 N·m (52 lb ft)	93 N·m (69 lb ft)	100 N·m (74 lb ft)	134 N·m (98 lb ft)	63 N·m (47 lb ft)	91 N·m (67 lb ft)
M16	174 N·m (128 lb ft)	231 N·m (171 lb ft)	248 N·m (183 lb ft)	331 N·m (244 lb ft)	158 N·m (116 lb ft)	226 N·m (167 lb ft)
M20	350 N·m (259 lb ft)	467 N·m (345 lb ft)	484 N·m (357 lb ft)	645 N·m (476 lb ft)	318 N·m (235 lb ft)	440 N·m (325 lb ft)
M24	607 N·m (447 lb ft)	809 N·m (597 lb ft)	838 N·m (618 lb ft)	1118 N·m (824 lb ft)	552 N·m (407 lb ft)	

IDENTIFICATION

Metric Hex head and carriage bolts, classes 5.6 and up



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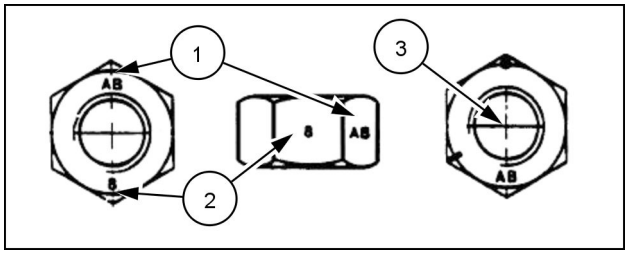
1. Manufacturer's Identification
2. Property Class

Metric Hex nuts and locknuts, classes 05 and up



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1. Manufacturer's Identification
2. Property Class

3. Clock Marking of Property Class and Manufacturer's Identification (Optional), i.e. marks **60 °** apart indicate Class 10 properties, and marks **120 °** apart indicate Class 8.

INCH NON-FLANGED HARDWARE

NOMINAL SIZE	SAE GRADE 5 BOLT and NUT		SAE GRADE 8 BOLT and NUT		LOCKNUT GrB W/ Gr5 BOLT	LOCKNUT GrC W/ Gr8 BOLT
	UN-PLATED or PLATED SILVER	PLATED W/ZnCr GOLD	UN-PLATED or PLATED SILVER	PLATED W/ZnCr GOLD		
1/4	**8 N·m (71 lb in)**	**11 N·m (97 lb in)**	**12 N·m (106 lb in)**	**16 N·m (142 lb in)**	**8.5 N·m (75 lb in)**	**12.2 N·m (109 lb in)**
5/16	**17 N·m (150 lb in)**	**23 N·m (204 lb in)**	**24 N·m (212 lb in)**	**32 N·m (283 lb in)**	**17.5 N·m (155 lb in)**	**25 N·m (220 lb in)**
3/8	**30 N·m (22 lb ft)**	**40 N·m (30 lb ft)**	**43 N·m (31 lb ft)**	**57 N·m (42 lb ft)**	**31 N·m (23 lb ft)**	**44 N·m (33 lb ft)**
7/16	**48 N·m (36 lb ft)**	**65 N·m (48 lb ft)**	**68 N·m (50 lb ft)**	**91 N·m (67 lb ft)**	**50 N·m (37 lb ft)**	**71 N·m (53 lb ft)**
1/2	**74 N·m (54 lb ft)**	**98 N·m (73 lb ft)**	**104 N·m (77 lb ft)**	**139 N·m (103 lb ft)**	**76 N·m (56 lb ft)**	**108 N·m (80 lb ft)**
9/16	**107 N·m (79 lb ft)**	**142 N·m (105 lb ft)**	**150 N·m (111 lb ft)**	**201 N·m (148 lb ft)**	**111 N·m (82 lb ft)**	**156 N·m (115 lb ft)**
5/8	**147 N·m (108 lb ft)**	**196 N·m (145 lb ft)**	**208 N·m (153 lb ft)**	**277 N·m (204 lb ft)**	**153 N·m (113 lb ft)**	**215 N·m (159 lb ft)**
3/4	**261 N·m (193 lb ft)**	**348 N·m (257 lb ft)**	**369 N·m (272 lb ft)**	**491 N·m (362 lb ft)**	**271 N·m (200 lb ft)**	**383 N·m (282 lb ft)**
7/8	**420 N·m (310 lb ft)**	**561 N·m (413 lb ft)**	**594 N·m (438 lb ft)**	**791 N·m (584 lb ft)**	**437 N·m (323 lb ft)**	**617 N·m (455 lb ft)**
1	**630 N·m (465 lb ft)**	**841 N·m (620 lb ft)**	**890 N·m (656 lb ft)**	**1187 N·m (875 lb ft)**	**654 N·m (483 lb ft)**	**924 N·m (681 lb ft)**

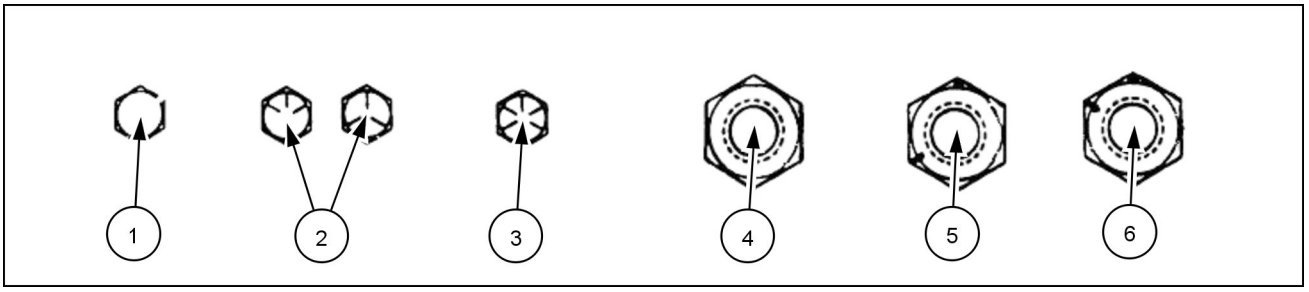
NOTE: *For Imperial Units,* ***1/4 in*** *and* ***5/16 in*** *hardware torque specifications are shown in pound-inches.* ***3/8 in*** *through* ***1 in*** *hardware torque specifications are shown in pound-feet.*

INCH FLANGED HARDWARE

NOM-INAL SIZE	SAE GRADE 5 BOLT and NUT		SAE GRADE 8 BOLT and NUT		LOCKNUT GrF W/ Gr5 BOLT	LOCKNUT GrG W/ Gr8 BOLT
	UNPLATED or PLATED SILVER	PLATED W/ZnCr GOLD	UNPLATED or PLATED SILVER	PLATED W/ZnCr GOLD		
1/4	**9 N·m (80 lb in)**	**12 N·m (106 lb in)**	**13 N·m (115 lb in)**	**17 N·m (150 lb in)**	**8 N·m (71 lb in)**	**12 N·m (106 lb in)**
5/16	**19 N·m (168 lb in)**	**25 N·m (221 lb in)**	**26 N·m (230 lb in)**	**35 N·m (310 lb in)**	**17 N·m (150 lb in)**	**24 N·m (212 lb in)**
3/8	**33 N·m (25 lb ft)**	**44 N·m (33 lb ft)**	**47 N·m (35 lb ft)**	**63 N·m (46 lb ft)**	**30 N·m (22 lb ft)**	**43 N·m (32 lb ft)**
7/16	**53 N·m (39 lb ft)**	**71 N·m (52 lb ft)**	**75 N·m (55 lb ft)**	**100 N·m (74 lb ft)**	**48 N·m (35 lb ft)**	**68 N·m (50 lb ft)**
1/2	**81 N·m (60 lb ft)**	**108 N·m (80 lb ft)**	**115 N·m (85 lb ft)**	**153 N·m (113 lb ft)**	**74 N·m (55 lb ft)**	**104 N·m (77 lb ft)**
9/16	**117 N·m (86 lb ft)**	**156 N·m (115 lb ft)**	**165 N·m (122 lb ft)**	**221 N·m (163 lb ft)**	**106 N·m (78 lb ft)**	**157 N·m (116 lb ft)**
5/8	**162 N·m (119 lb ft)**	**216 N·m (159 lb ft)**	**228 N·m (168 lb ft)**	**304 N·m (225 lb ft)**	**147 N·m (108 lb ft)**	**207 N·m (153 lb ft)**
3/4	**287 N·m (212 lb ft)**	**383 N·m (282 lb ft)**	**405 N·m (299 lb ft)**	**541 N·m (399 lb ft)**	**261 N·m (193 lb ft)**	**369 N·m (272 lb ft)**
7/8	**462 N·m (341 lb ft)**	**617 N·m (455 lb ft)**	**653 N·m (482 lb ft)**	**871 N·m (642 lb ft)**	**421 N·m (311 lb ft)**	**594 N·m (438 lb ft)**
1	**693 N·m (512 lb ft)**	**925 N·m (682 lb ft)**	**979 N·m (722 lb ft)**	**1305 N·m (963 lb ft)**	**631 N·m (465 lb ft)**	**890 N·m (656 lb ft)**

IDENTIFICATION

Inch Bolts and free-spinning nuts



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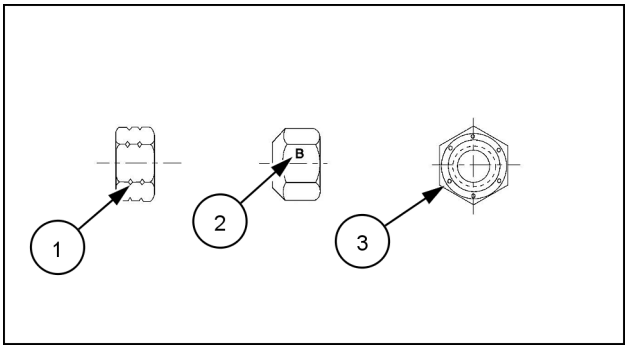
Grade Marking Examples

SAE Grade Identification			
1	Grade 2 - No Marks	4	Grade 2 Nut - No Marks
2	Grade 5 - Three Marks	5	Grade 5 Nut - Marks **120 °** Apart
3	Grade 8 - Five Marks	6	Grade 8 Nut - Marks **60 °** Apart

Inch Lock Nuts, All Metal (Three optional methods)



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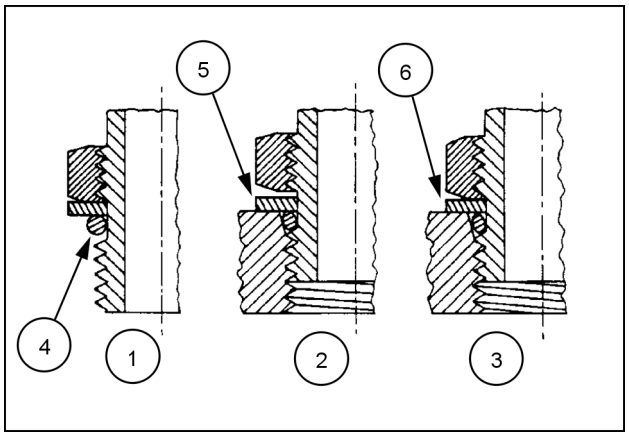
Grade Identification

Grade	Corner Marking Method (1)	Flats Marking Method (2)	Clock Marking Method (3)
Grade A	No Notches	No Mark	No Marks
Grade B	One Circumferential Notch	Letter B	Three Marks
Grade C	Two Circumferential Notches	Letter C	Six Marks

Torque specifications for hydraulic fittings - Standard torque data for hydraulics

INSTALLATION OF ADJUSTABLE FITTINGS IN STRAIGHT THREAD O RING BOSSES



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1. Lubricate the O-ring by coating it with a light oil or petroleum. Install the O-ring in the groove adjacent to the metal backup washer which is assembled at the extreme end of the groove **(4)**.
2. Install the fitting into the SAE straight thread boss until the metal backup washer contacts the face of the boss **(5)**.

   NOTE: *Do not over tighten and distort the metal backup washer.*
3. Position the fitting by turning out (counterclockwise) up to a maximum of one turn. Holding the pad of the fitting with a wrench, tighten the locknut and washer against the face of the boss **(6)**.

STANDARD TORQUE DATA FOR HYDRAULIC TUBES AND FITTINGS

TUBE NUTS FOR 37° FLARED FITTINGS				O-RING BOSS PLUGS ADJUSTABLE FITTING LOCKNUTS, SWIVEL JIC- 37° SEATS
SIZE	**TUBING OD**	**THREAD SIZE**	**TORQUE**	**TORQUE**
4	**6.4 mm** (**1/4 in**)	7/16-20	**12 - 16 N·m** (**9 - 12 lb ft**)	**8 - 14 N·m** (**6 - 10 lb ft**)
5	**7.9 mm** (**5/16 in**)	1/2-20	**16 - 20 N·m** (**12 - 15 lb ft**)	**14 - 20 N·m** (**10 - 15 lb ft**)
6	**9.5 mm** (**3/8 in**)	9/16-18	**29 - 33 N·m** (**21 - 24 lb ft**)	**20 - 27 N·m** (**15 - 20 lb ft**)
8	**12.7 mm** (**1/2 in**)	3/4-16	**47 - 54 N·m** (**35 - 40 lb ft**)	**34 - 41 N·m** (**25 - 30 lb ft**)
10	**15.9 mm** (**5/8 in**)	7/8-14	**72 - 79 N·m** (**53 - 58 lb ft**)	**47 - 54 N·m** (**35 - 40 lb ft**)
12	**19.1 mm** (**3/4 in**)	1-1/16-12	**104 - 111 N·m** (**77 - 82 lb ft**)	**81 - 95 N·m** (**60 - 70 lb ft**)
14	**22.2 mm** (**7/8 in**)	1-3/16-12	**122 - 136 N·m** (**90 - 100 lb ft**)	**95 - 109 N·m** (**70 - 80 lb ft**)
16	**25.4 mm** (**1 in**)	1-5/16-12	**149 - 163 N·m** (**110 - 120 lb ft**)	**108 - 122 N·m** (**80 - 90 lb ft**)
20	**31.8 mm** (**1-1/4 in**)	1-5/8-12	**190 - 204 N·m** (**140 - 150 lb ft**)	**129 - 158 N·m** (**95 - 115 lb ft**)
24	**38.1 mm** (**1-1/2 in**)	1-7/8-12	**217 - 237 N·m** (**160 - 175 lb ft**)	**163 - 190 N·m** (**120 - 140 lb ft**)
32	**50.8 mm** (**2 in**)	2-1/2-12	**305 - 325 N·m** (**225 - 240 lb ft**)	**339 - 407 N·m** (**250 - 300 lb ft**)

These torques are not recommended for tubes of **12.7 mm** (**1/2 in**) OD and larger with wall thickness of **0.889 mm** (**0.035 in**) or less. The torque is specified for **0.889 mm** (**0.035 in**) wall tubes on each application individually.

Before installing and torquing **37 °** flared fittings, clean the face of the flare and threads with a clean solvent or Loctite cleaner and apply hydraulic sealant **LOCTITE® 569** to the **37 °** flare and the threads.

Install fitting and torque to specified torque, loosen fitting and retorque to specifications.

PIPE THREAD FITTING TORQUE

Before installing and tightening pipe fittings, clean the threads with a clean solvent or Loctite cleaner and apply sealant **LOCTITE® 567 PST PIPE SEALANT** for all fittings including stainless steel or **LOCTITE® 565 PST** for most metal fittings. For high filtration/zero contamination systems use **LOCTITE® 545**.

Thread Size	Torque (Maximum)
1/8-27	**13 N·m** (**10 lb ft**)
1/4-18	**16 N·m** (**12 lb ft**)
3/8-18	**22 N·m** (**16 lb ft**)
1/2-14	**41 N·m** (**30 lb ft**)
3/4-14	**54 N·m** (**40 lb ft**)

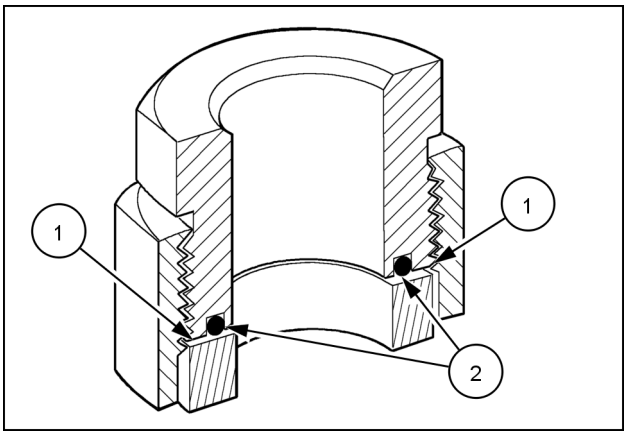
INSTALLATION OF ORFS (O-RING FLAT FACED) FITTINGS

When installing ORFS fittings thoroughly clean both flat surfaces of the fittings **(1)** and lubricate the O-ring **(2)** with light oil. Make sure both surfaces are aligned properly. Torque the fitting to specified torque listed throughout the repair manual.

NOTICE: *If the fitting surfaces are not properly cleaned, the O-ring will not seal properly. If the fitting surfaces are not properly aligned, the fittings may be damaged and will not seal properly.*

NOTICE: *Always use genuine factory replacement oils and filters to ensure proper lubrication and filtration of engine and hydraulic system oils.*

The use of proper oils, grease, and keeping the hydraulic system clean will extend machine and component life.



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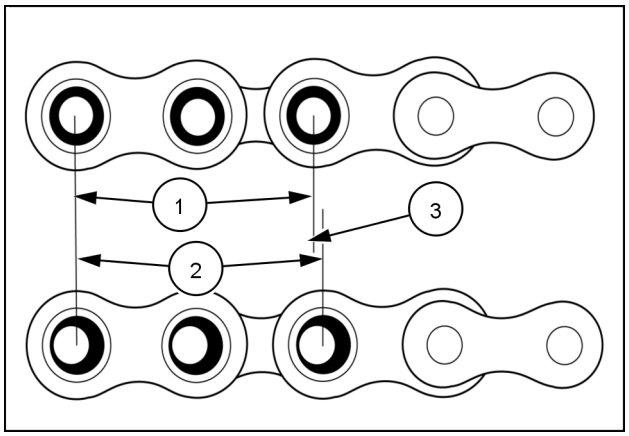
Chain wear tables - roller chains

Chain wear

The individual joints in a roller chain articulate as they enter and leave the sprockets. This articulation results in wear on the pins and bushings. Material that is worn away from these surfaces will cause the chain to gradually elongate. Chains do not stretch. Material is removed from pin and bushing.



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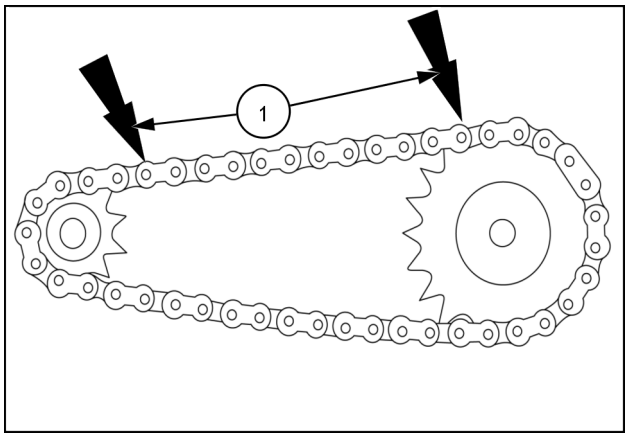
Critical dimensions of the chain are as follows:

- **(1)** 2X pitch
- **(2)** Wear plus 2X pitch
- **(3)** Elongation due to pin and bushing wear

Elongation is normal and may be minimized by proper lubrication and drive maintenance. The rate of wear is dependent upon: the relationship between the load and the amount of bearing area between pin and bushing, the material and surface condition of the bearing surfaces, the adequacy of lubrication, and the frequency and degree of articulation between pins and bushings. The latter is determined by the quantity of sprockets in the drive, their speeds, the number of teeth and the length of the chain in pitches.



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An accurate wear measurement **(1)** can be made by using the above illustration. Measure as closely as possible from the center of one pin to the center of another. The more pitches (pins) contained within the measurement increase the accuracy. If the measured value exceeds the nominal by more than the allowable percentage the chain should be replaced. The maximum allowable wear elongation is approximately **3 %** for most industrial applications, based upon sprocket design. The allowable chain wear in percent can be calculated using the relationship: 200/ **(N)**, where **(N)** is the number of teeth in the large sprocket. This relationship is often useful since the normal maximum allowable chain wear elongation of **3 %** is valid only up to 67 teeth in the large sprocket. In drives having fixed center distances, chains running in parallel or where smoother operation is required, wear should be limited to approximately **1.5 %**.
For example, if 12 pitches (12 pins) of a #80 chain were measured and the result was **313.944 mm** (**12.360 in**) or greater (using **3 %** as the maximum allowable wear), the chain should be replaced. Anything less than **313.944 mm** (**12.360 in**) would still be acceptable by most industrial standards.

WEAR LIMITS ON ROLLER CHAIN

Strand Length in Pitches	No. 40 Chain (08A)		No. 50 Chain (10A)		No. 60 Chain (12A)		No. 80 Chain (16A)	
	New	Replace	New	Replace	New	Replace	New	Replace
40P	508 mm (20.0 in)	523 mm (20.591 in)	635 mm (25.0 in)	654 mm (25.748 in)	762 mm (30.0 in)	787 mm (31.0 in)	1016 mm (40.0 in)	1047 mm (41.220 in)
50P	635 mm (25.0 in)	654 mm (25.748 in)	793 mm (31.220 in)	817 mm (32.165 in)	952 mm (37.480 in)	981 mm (38.622 in)	1270 mm (50.0 in)	1308 mm (51.496 in)
60P	762 mm (30.0 in)	784 mm (30.866 in)	952 mm (37.480 in)	981 mm (38.622 in)	1143 mm (45.0 in)	1177 mm (46.339 in)	1524 mm (60.0 in)	1568 mm (61.732 in)
70P	889 mm (35.0 in)	914 mm (36.0 in)	1111 mm (43.740 in)	1144 mm (45.039 in)	1333 mm (52.480 in)	1371 mm (54.0 in)	1778 mm (70.0 in)	1828 mm (72.0 in)
80P	1016 mm (40.0 in)	1047 mm (41.220 in)	1270 mm (50.0 in)	1308 mm (51.496 in)	1524 mm (60.0 in)	1568 mm (61.732 in)	2032 mm (80.0 in)	2095 mm (82.480 in)
90P	1143 mm (45.0 in)	1177 mm (46.339 in)	1428 mm (56.220 in)	1473 mm (58.0 in)	1714 mm (67.480 in)	1765 mm (69.488 in)	2286 mm (90.0 in)	2355 mm (92.717 in)
100P	1270 mm (50.0 in)	1308 mm (51.496 in)	1578 mm (62.126 in)	1635 mm (64.370 in)	1905 mm (75.0 in)	1962 mm (77.244 in)	2540 mm (100.0 in)	2616 mm (103.0 in)

STANDARD ROLLER CHAIN SIZES - NEW CHAINS

Chain No.	150 Chain No.	Pitch	Width	Roller Diameter
40	08A	12.7 mm (0.5 in)	7.9 mm (0.311 in)	7.9 mm (0.311 in)
50	10A	15.8 mm (0.622 in)	9.5 mm (0.374 in)	10.1 mm (0.398 in)
60	12A	19 mm (0.748 in)	12.7 mm (0.500 in)	11.9 mm (0.469 in)
80	16A	25.4 mm (1.000 in)	15.8 mm (0.622 in)	15.8 mm (0.622 in)
100	20A	31.7 mm (1.248 in)	19 mm (0.748 in)	19 mm (0.748 in)
120	24A	38.1 mm (1.500 in)	25.4 mm (1.000 in)	22.2 mm (0.874 in)
140	28A	44.4 mm (1.748 in)	25.4 mm (1.000 in)	25.4 mm (1.000 in)
160	32A	50.8 mm (2.000 in)	31.7 mm (1.248 in)	28.5 mm (1.122 in)
180	*	57.1 mm (2.248 in)	35.7 mm (1.406 in)	35.7 mm (1.406 in)
200	40A	63.4 mm (2.496 in)	38.1 mm (1.500 in)	39.6 mm (1.559 in)

* No. 150 Number does not exist.

General maintenance

General

⚠ WARNING

Avoid injury! Always do the following before lubricating, maintaining, or servicing the machine.
1. Disengage all drives.
2. Engage parking brake.
3. Lower all attachments to the ground, or raise and engage all safety locks.
4. Shut off engine.
5. Remove key from key switch.
6. Switch off battery key, if installed.
7. Wait for all machine movement to stop.
Failure to comply could result in death or serious injury.

W0047A

NOTICE: *While any company can perform necessary maintenance or repairs on your equipment, NEW HOLLAND strongly recommends that you use only authorized NEW HOLLAND dealers and products that meet given specifications. Improperly or incorrectly performed maintenance and repair voids the equipment warranty and may affect service intervals.*

- Your draper header is designed to require a minimum of lubrication. However, regular lubrication is the best insurance against delays and repairs and greatly increases the life of your header.
- Use only top grade lubricants stored in clean vessels.

Observe the following precautions:

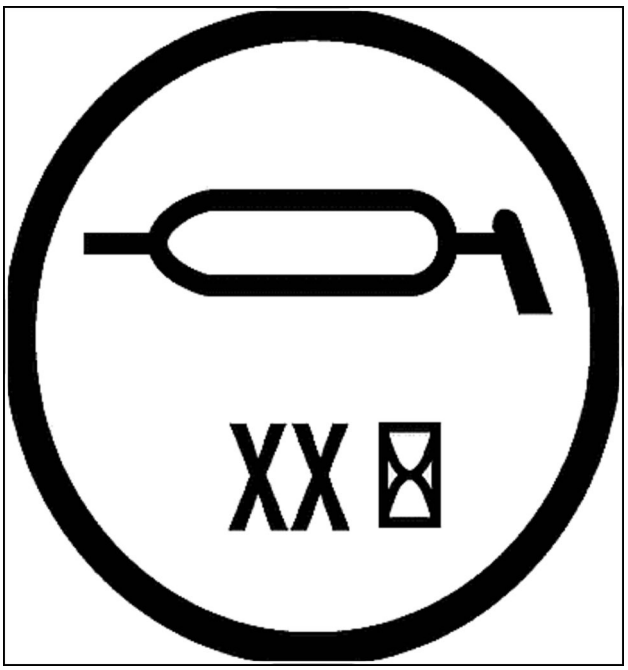
- Disengage all control levers on the combine.
- Lower the header to the ground or raise the header and engage the combine header lift cylinder lockouts.
- Lower the reel completely or raise the reel and engage the reel safety latches.
- Shut off the combine engine, engage the parking brake and remove the ignition key before leaving the combine operator's platform.

Grease fittings and intervals

- Before greasing always wipe any dirt from the grease fittings.
- All points except those with special notations should be lubricated until the grease is forced out around the bearings, and then excess grease should be wiped off.

Grease specification

- Use **NEW HOLLAND AMBRA GR-9 MULTI-PURPOSE GREASE** or grease classified under NLGI 2.
- All grease fittings on the machine are indicated with a grease decal on which the time interval "XX" is indicated.



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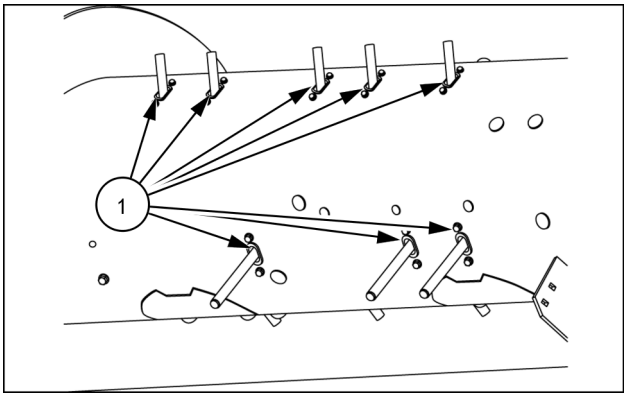
Retractable auger tines

- It is recommended to put a drop of oil onto all the auger tines **(1)** every 10 operating hours or daily. This can decrease the rubbing effect of the tines on the guides and, as a result, increase the life of the guides.



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Chains, threaded rods and pivot points

Chains

- Lubricate all chains DAILY AND IMMEDIATELY AFTER WORK. In this way the oil will penetrate into the chain and provide excellent protection and lubrication. Use **NEW HOLLAND AMBRA MASTERGOLD™ HSP ENGINE OIL SAE 30**, or an oil meeting the following specification:

1. API GL-5
2. MIL-L-2105D

Threaded rods

- Lubricate all threaded rods where adjustments are carried out at least once a season.

Pivot points

- It is recommended to oil all pivot points (also the safety guard pivot points) which may become stiff from corrosion or dirt.

Auger finger replacement

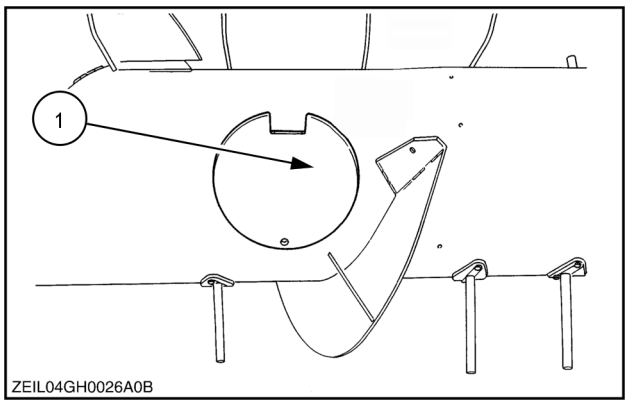
⚠ WARNING

Avoid injury! Always do the following before lubricating, maintaining, or servicing the machine.
1. Disengage all drives.
2. Engage parking brake.
3. Lower all attachments to the ground, or raise and engage all safety locks.
4. Shut off engine.
5. Remove key from key switch.
6. Switch off battery key, if installed.
7. Wait for all machine movement to stop.
Failure to comply could result in death or serious injury.

W0047A

To replace fingers proceed as follows:

1. Depending where the retractable auger finger is located, remove the appropriate auger cover **(1)**.
   - Remove the PTO shaft from the auger so it may be turned freely.



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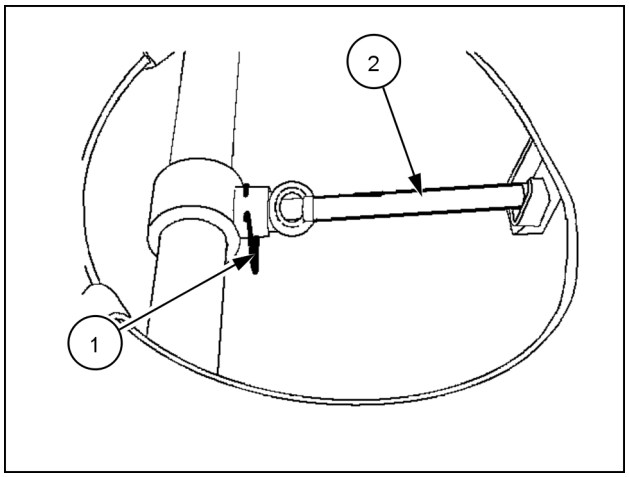
2. Remove the cotter pin **(1)** and remove the retractable finger **(2)**.



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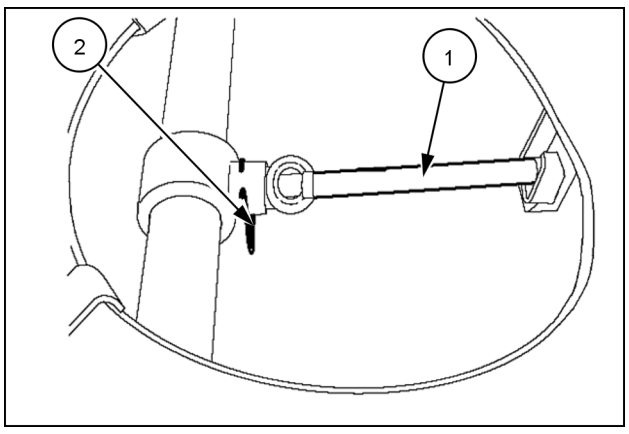
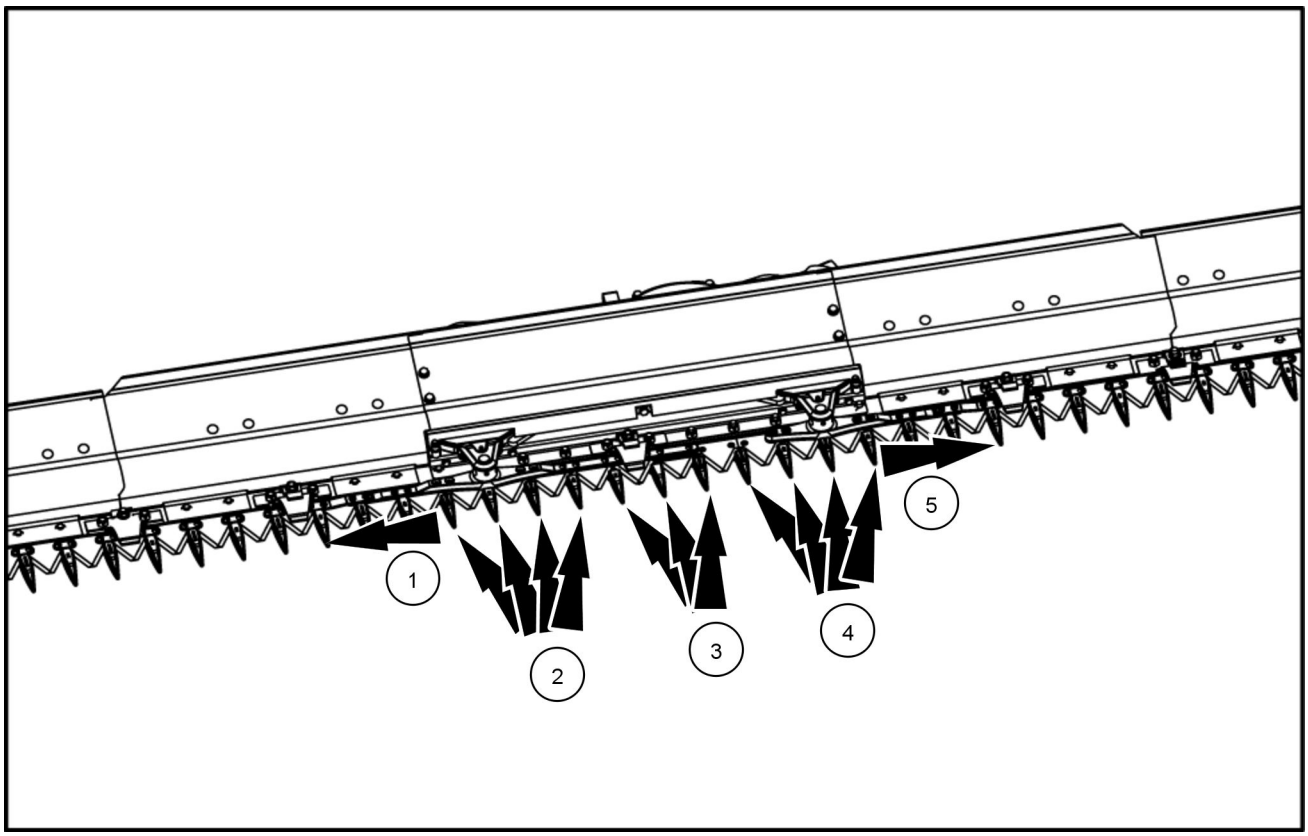
3. Install a new retractable finger **(1)** and secure with the cotter pin **(2)**.
4. Reinstall the cover and tighten the bolts to a minimum torque of **10 Nm** (**88.5 lb in**). Check that the opening between the cover and the auger is maximum **1.5 mm** (**0.1 in**), adjust if necessary.



20086401 3

Sickle guards replace



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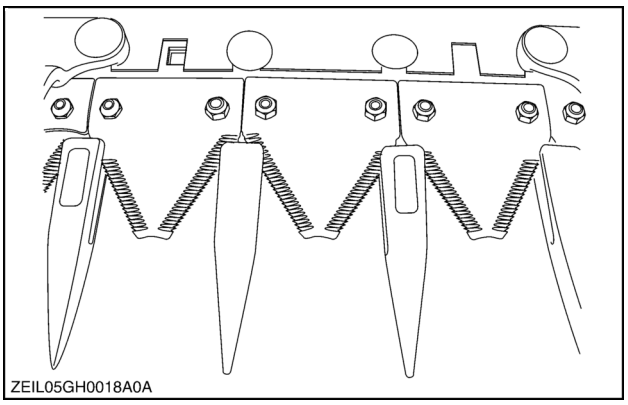
Knife guard location guide

(1) Standard guard
(2) Cutback guard
(3) Triple guard with triple shim
(4) Cutback guard with shim
(5) Standard guard with shim

1. Place the knife as shown by reversing the knife slowly or using cutterbar service tool.



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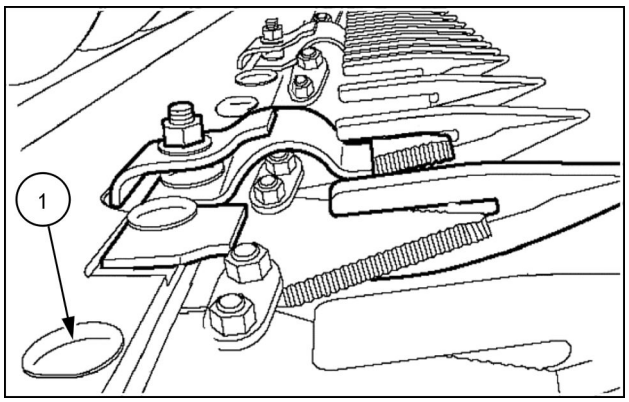
2. Remove the nuts and the bolts **(1)**.



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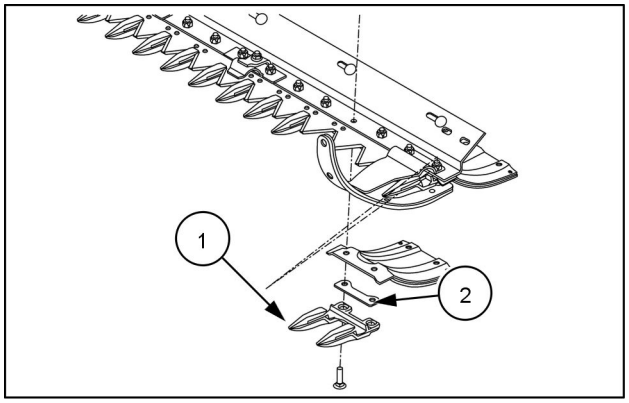
3. Replace the finger guard **(1)**.

   NOTE: *On the left-hand side of the header, reinstall the shim **(2)** between the skid shoe and the guard.*



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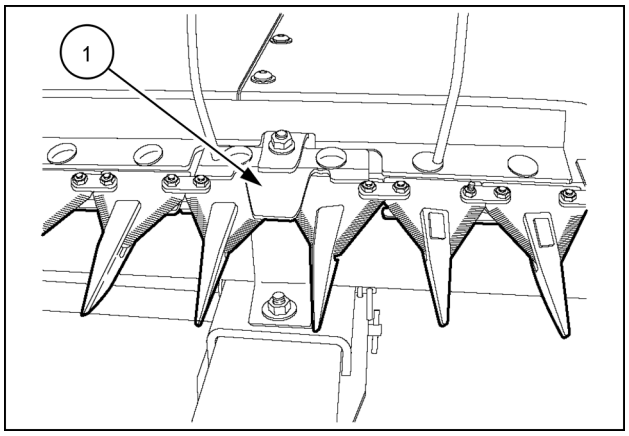
4. If necessary, install the knife hold-on clip **(1)**.
5. Install the bolts and tighten the nuts **43 N·m** (**32 lb ft**).
6. If necessary, align the finger guard.



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Knife replacement

⚠ WARNING

Avoid injury! Always do the following before lubricating, maintaining, or servicing the machine.
1. **Disengage all drives.**
2. **Engage parking brake.**
3. **Lower all attachments to the ground, or raise and engage all safety locks.**
4. **Shut off engine.**
5. **Remove key from key switch.**
6. **Switch off battery key, if installed.**
7. **Wait for all machine movement to stop.**

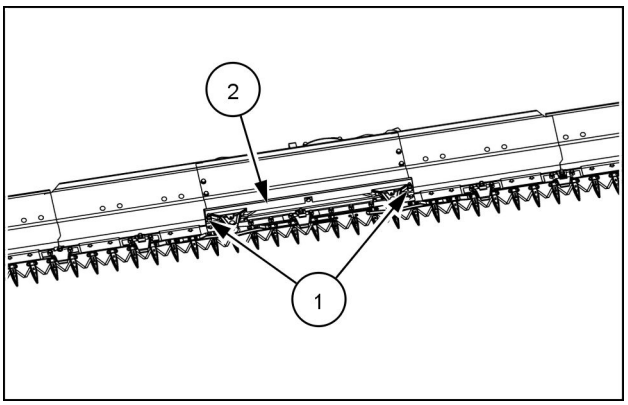
Failure to comply could result in death or serious injury.

W0047A

To remove the knife assembly:

1. Remove two bolts **(1)** and remove slot casting **(2)**.

   NOTE: *For Flex Only.*



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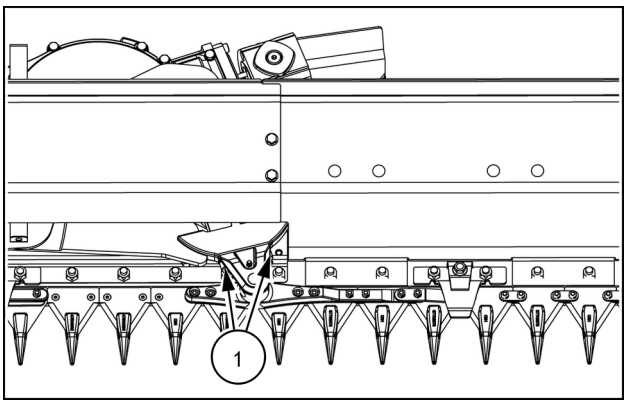
2. Remove the two bolts **(1)**.



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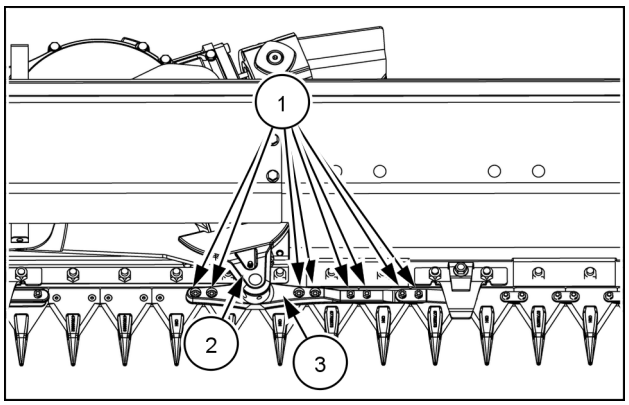
3. Remove and discard the eight nuts **(1)** holding the knife head.

   NOTE: *Use new nuts when servicing the knife drive.*
4. Twist the knife arm **(2)** and remove it.
5. Remove the knife head **(3)**.
6. Slide the knife assembly out of the header.



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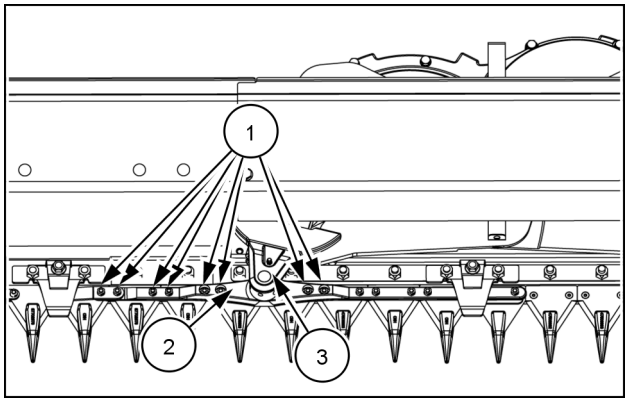
Left-hand side



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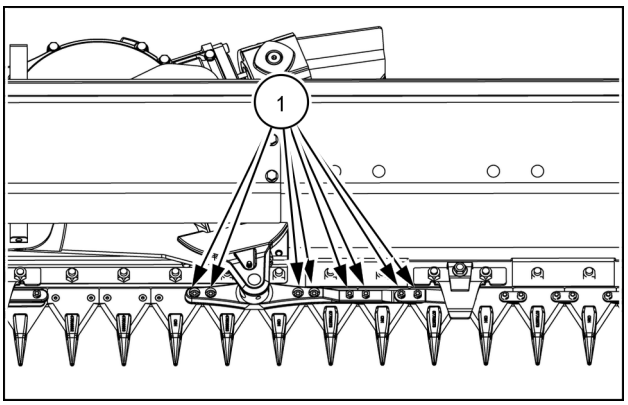
Right-hand side

To install the knife

1. Slide the knife into the head and make sure that it slides easily on the edges of the finger guards.
2. Install and tighten the knife head bolts **(1)**. Torque to **11.5 N·m** (**102 lb in**) after they are properly seated.

   NOTE: *Use new nuts when servicing the knife drive.*



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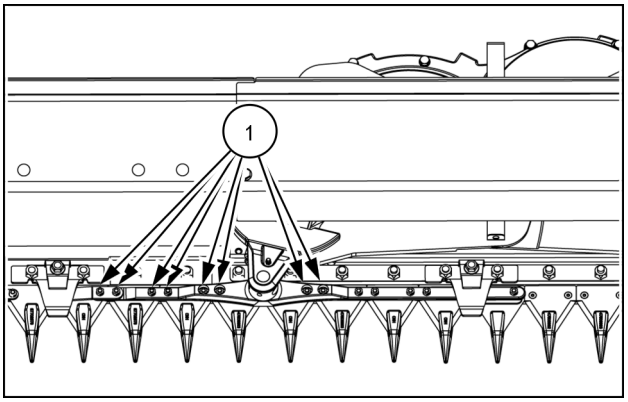
Left-hand side



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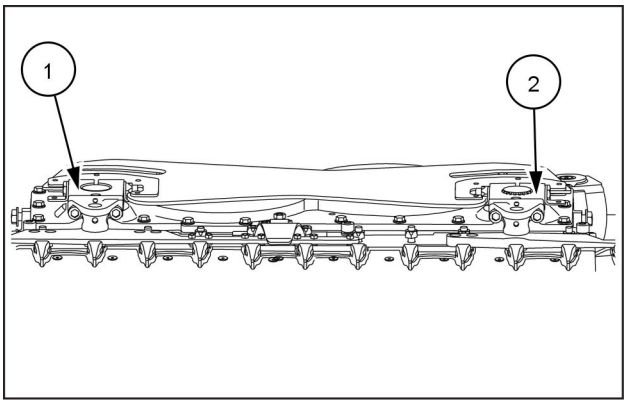
Right-hand side

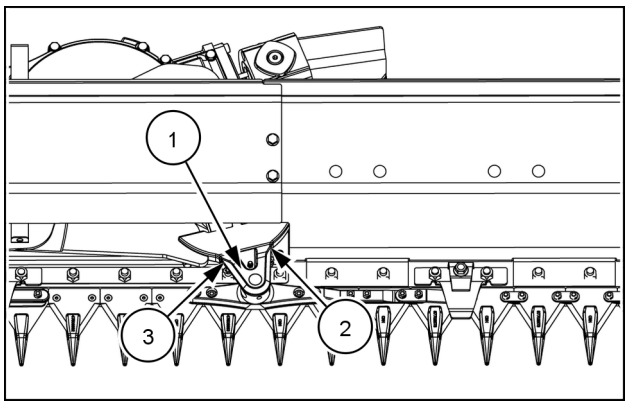
3. Make sure the knife arm blocks are positioned correctly:

- Right-hand side **(1)**
  - Top of block is flush with the top of the shaft.
- Left-hand side **(2)**
  - Top of block is **1.5 mm** (**0.06 in**) below the top of the shaft.

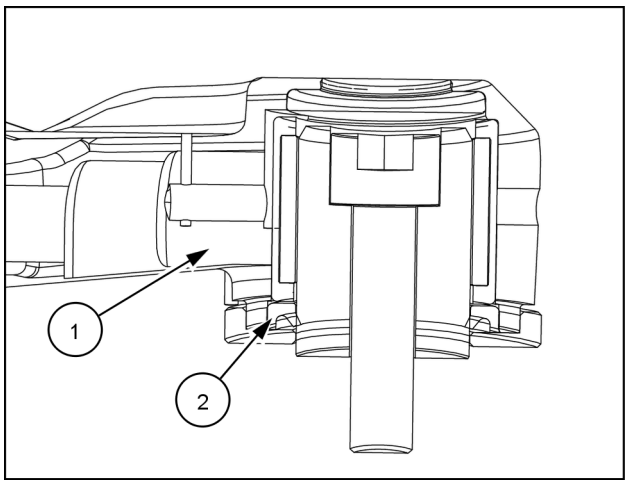


83114770 7

4. Carefully install the knife arm **(1)** to avoid rolling or damaging the seal lip **(2)** on the knife head.
5. Start the seal on the pin and gently rotate the knife arm back and forth while applying slight downward pressure until the arm is about **2 mm** above the knife head
6. Install the two bolts **(3)** and torque to **136 N·m** (**100 lb ft**).
7. Ensure the knife head moves freely up and down on the knife arm.



NHIL13GH00234AB 8

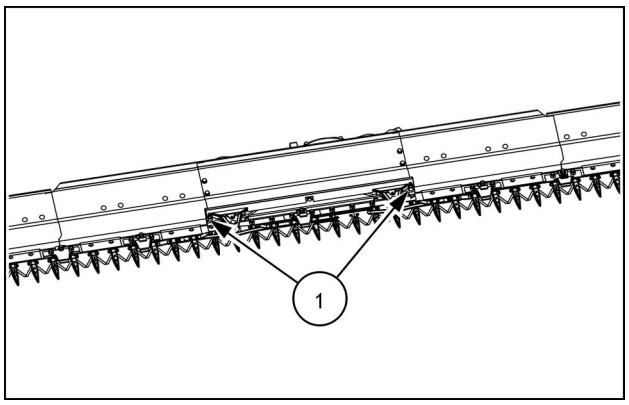


NHIL15GH00400AA 9

Slot casting

To reinstall slot casting proceed as follows:

1. Install two bolts **(1)** and torque to **28.8 N·m** (**21.2 lb ft**).

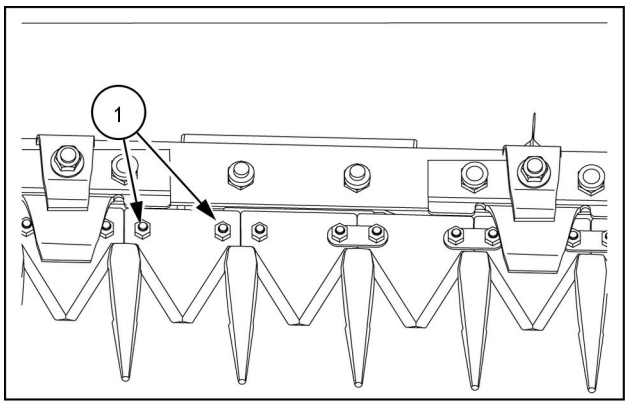


NHIL13GH00233AB 10

Knife sections

To replace damaged knife section(s) proceed as follows:

1. Align the knife using a cutterbar tool as pictured to remove a knife section.
2. Remove two nuts **(1)** and discard them.
3. Remove damaged knife section(s).
4. Install the new knife section(s).
5. Install the two new nuts and torque to **11.5 N·m** (**101.8 lb in**).

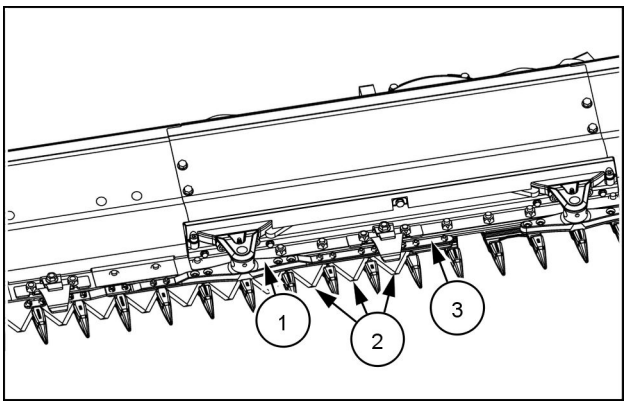


83114773 11

6. Use the guide below to determine the proper knife sections to replace.

Left-hand sections

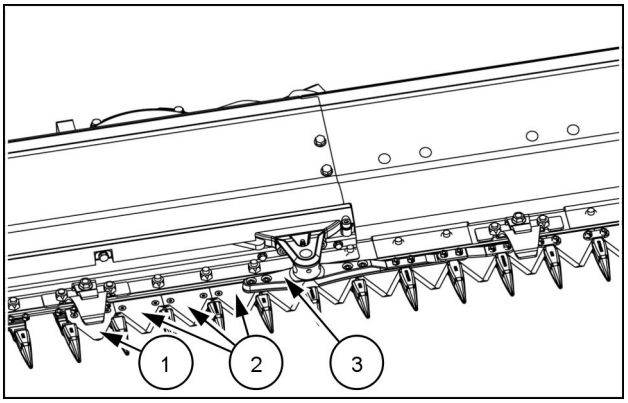
- **(1)** – Normal section.
- **(2)** – Counter sunk bottom section.
- **(3)** – Cut back section.



NHIL13GH00231AA 12

Right-hand sections

- **(1)** – Counter sunk bottom section.
- **(2)** – Counter sunk top section.
- **(3)** – Normal section.



NHIL13GH00232AA 13

Auger flighting - Configure

⚠ WARNING

Avoid injury! Always do the following before lubricating, maintaining, or servicing the machine.
1. **Disengage all drives.**
2. **Engage parking brake.**
3. **Lower all attachments to the ground, or raise and engage all safety locks.**
4. **Shut off engine.**
5. **Remove key from key switch.**
6. **Switch off battery key, if installed.**
7. **Wait for all machine movement to stop.**

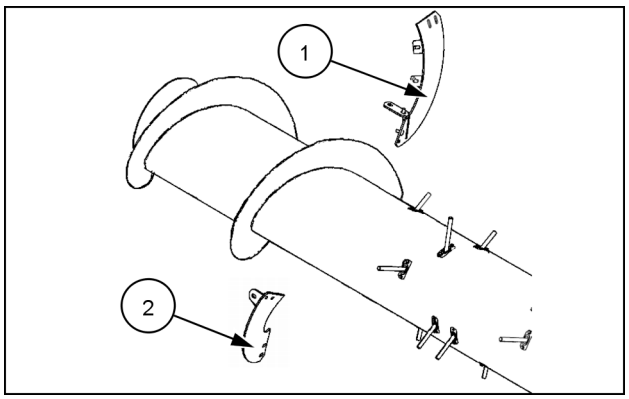
Failure to comply could result in death or serious injury.

W0047A

The auger flighting can be configured for different crop conditions.

The auger is configured from the factory with one long extension **(1)** and one short extension **(2)** installed on each side of the auger.

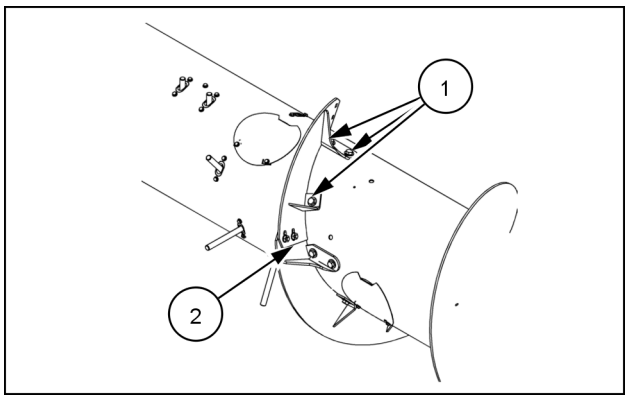
If the crop is fed too far to the center of the feeder opening, especially in dry crop conditions in combination with a combine of **1580 mm** (**62.20 in**) frame width, remove the short auger flight extensions. If this is not sufficient enough, also remove the second auger flight extension.



9311002743 1

Remove short extension

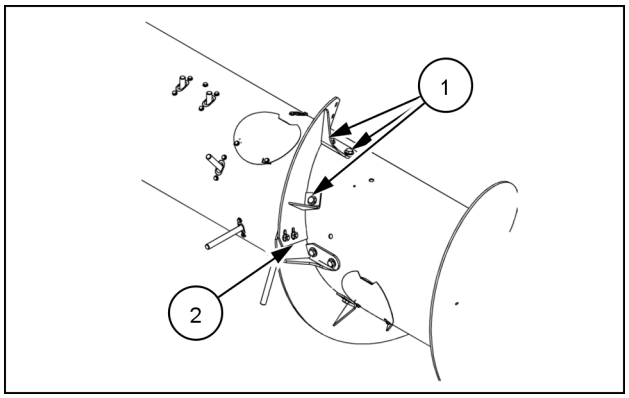
1. Remove the three mounting bolts **(1)**.
2. Remove the two connecting bolts **(2)**.
3. If no extensions will be installed, insert button head bolts, supplied with the kit, in place of the mounting bolts **(1)**.



9311002746 2

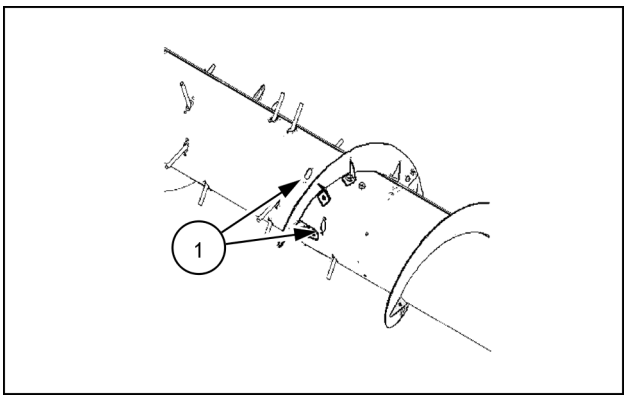
Install long extension (optional accessory available separately)

1. Remove short extensions, if installed, as described above.
2. Remove button head plug bolts **(1)**.



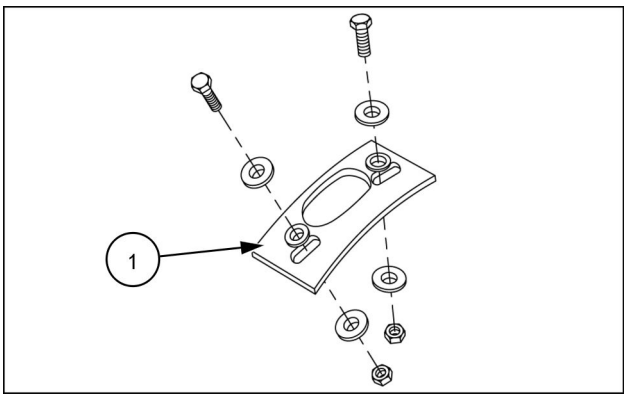
9311002746 3

3. Remove the second and fifth picking fingers **(1)** from each side of the auger. Refer to **6-12**.



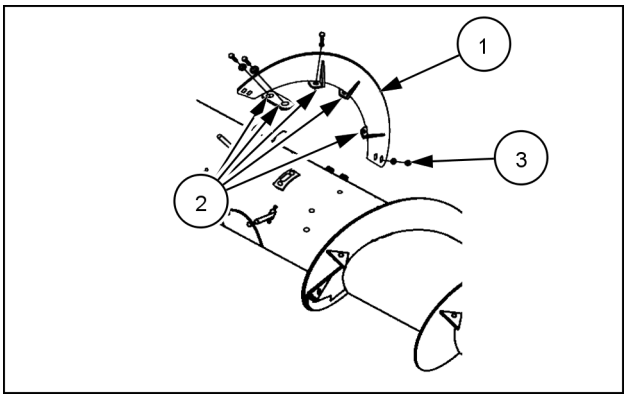
9311002747 4

4. Replace the finger guides with covers **(1)** included in the kit.



93108167 5

5. Install the long flighting extension **(1)** using five mounting bolts **(2)** and two connecting bolts **(3)**.



9311002748 6

MAINTENANCE CHART

Maintenance chart

Maintenance action	Grease	Adjust	Check	Replace	Change fluid		Page no.
Every 10 hours or daily							
Reel drive chain			■				**6-24**
Hydraulic reservoir fluid level - Main			■				**6-25**
Hydraulic reservoir fluid level – Expansion			■				**6-26**
Knife drive			■				**6-27**
Draper belt tension and tracking		■					**6-28**
Every 25 hours							
Grease fittings	■						**6-30**
After the first 50 hours of operation							
Grease fittings	■						**6-32**
Hydraulic filter					■		**6-35**
Gearbox						■	**6-36**
Knife drive						■	**6-37**
Auger drive chain case						■	**6-38**
Transport wheel torque			■				**6-39**
Transport wheel torque		■					**6-40**
Every 50 hours							
Grease fittings	■						**6-41**
Auger drive chain case			■				**6-43**
Gearbox			■				**6-44**
Knife drive			■				**6-44**
Every 600 hours or annually							
Auger drive chain case						■	**6-46**
Hydraulic reservoir fluid level – Main						■	**6-47**
Hydraulic reservoir fluid level – Expansion						■	**6-48**
Hydraulic filter					■		**6-49**
Hydraulic pump drive						■	**6-50**
Knife drive						■	**6-51**

Capacities

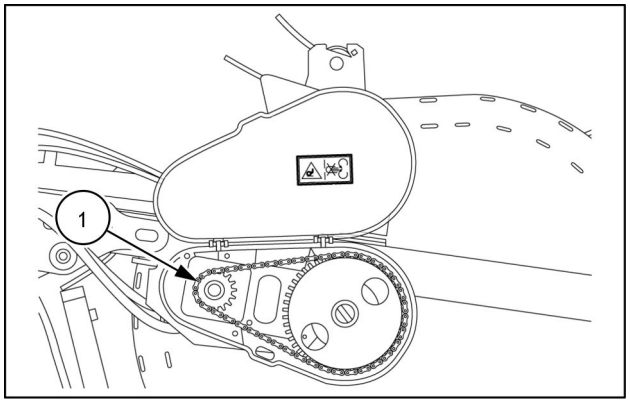
Lubrication and hydraulic oil capacities

Item	Amount	NEW HOLLAND	Lubricant grade	International specification
Knife head grease fittings		**NEW HOLLAND AMBRA GR-9 MULTI-PURPOSE GREASE**	NLGI 2	M1C 137–A M1C 75–B
Grease fittings		**NEW HOLLAND AMBRA GR-9 MULTI-PURPOSE GREASE**	NLGI 2	M1C 137–A M1C 75–B
Knife drive gearbox	**6 l** (**1.6 US gal**)	**NEW HOLLAND AMBRA HYPOIDE 90**	SAE 80W90	API GL-5 MIL-L-2105D
Auger chain case	**4.5 l** (**4.75 US qt**)	**NEW HOLLAND AMBRA HYPOIDE 90**	SAE 80W90	API GL-5 MIL-L-2105D
Hydraulic pump gear box	**1.5 l** (**3.2 US pt**)	**NEW HOLLAND AMBRA HYPOIDE 90**	SAE 80W90	API GL-5 MIL-L-2105D
Hydraulic reservoir	**92.4 l** (**24.4 US gal**)	**NEW HOLLAND AMBRA MASTERTRAN™ HYDRAULIC TRANSMISSION OIL**		

Every 10 hours or daily

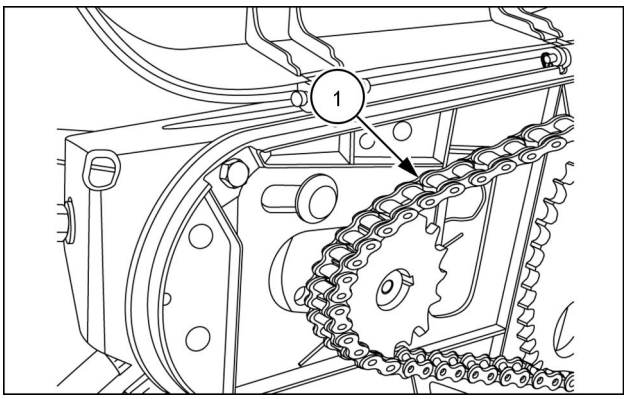
Reel drive chain

1. Reel drive chain **(1)**.
   Proper tension should just allow the chain to move side to side on the sprocket.



83112560 1

2. Lubricate the reel drive chain **(1)** with **NEW HOLLAND ENGINE OIL 30**.



93103446 2

Hydraulic reservoir fluid level - Main

⚠ WARNING

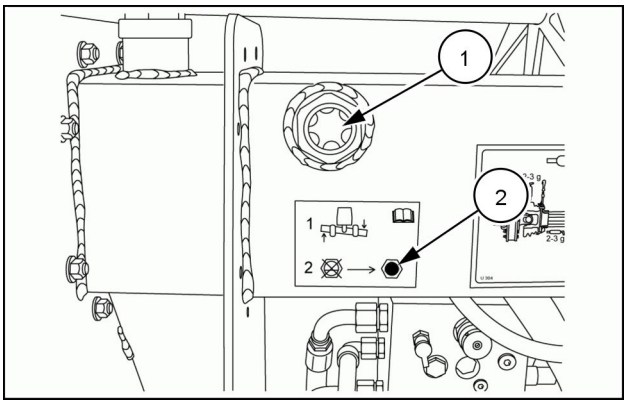
Avoid injury! Always do the following before lubricating, maintaining, or servicing the machine.
1. Disengage all drives.
2. Engage parking brake.
3. Lower all attachments to the ground, or raise and engage all safety locks.
4. Shut off engine.
5. Remove key from key switch.
6. Switch off battery key, if installed.
7. Wait for all machine movement to stop.
Failure to comply could result in death or serious injury.

W0047A

1. Check the oil level **(1)** daily.

NOTE: *Check the level only when the oil is cold (ambient temperature).*

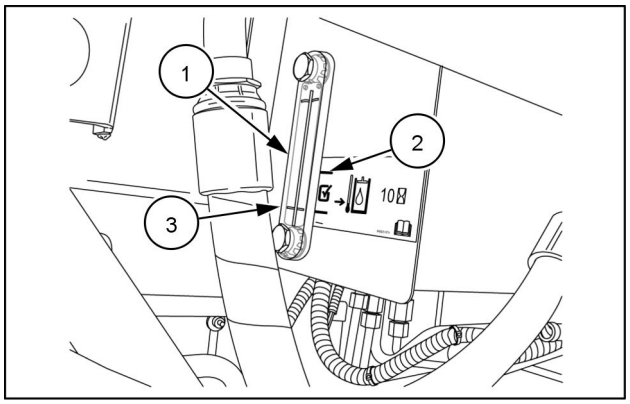
2. When the right-hand side of the header is tilted down, the oil level should still fill the plug completely as described in the decal **(2)**.



NHIL14GH00601AB 1

Hydraulic reservoir fluid level – Expansion

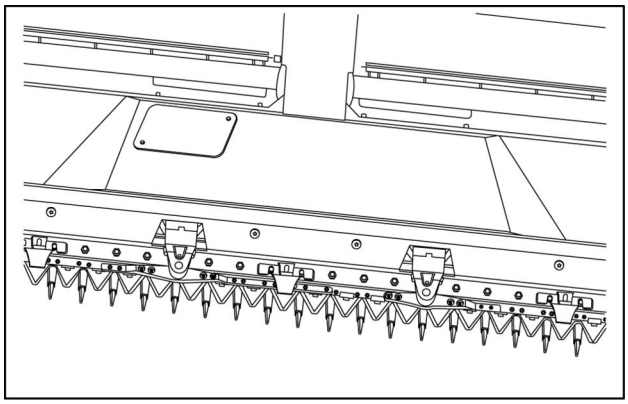
1. Check oil level daily.
2. Check the level when the oil is at ambient temperature.
3. Lower the head to the ground.
4. Stop all functions.
5. Look at the sight gauge **(1)** oil level should be between the red, low **(3)**, and black, high **(2)**, marks on the decal.
6. The oil level will move up and down depending on the oil temperature. The oil level should be closer to the low mark **(3)** on the sight glass when cold, and closer to the high mark **(2)** on the sight glass when at operating temperature.



83117538 1

Knife drive

1. Check the knife drive every 10 hours, or daily.
2. Inspect the top of the knife drive gearbox for material accumulation.
3. Remove debris and clean the gearbox as necessary.



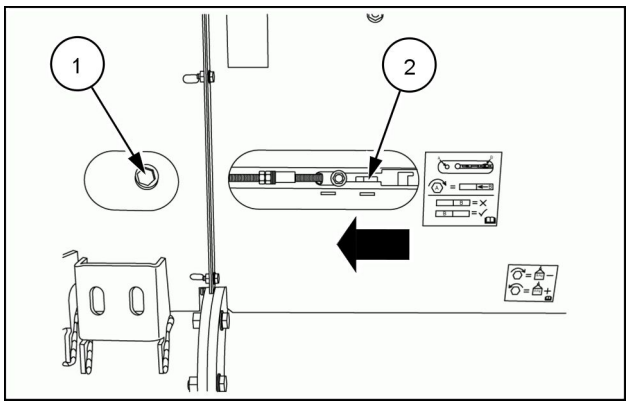
NHIL12GH00066AA 1

Draper belt tension and tracking

Draper belt tension

1. Turn the adjuster bolt **(1)** clockwise (in) to tighten the draper belt tension and counter-clockwise (out) to loosen the draper belt tension.
2. Tighten the adjuster until the trailing edge of the red indicator bar **(2)** is approximately halfway across the window.

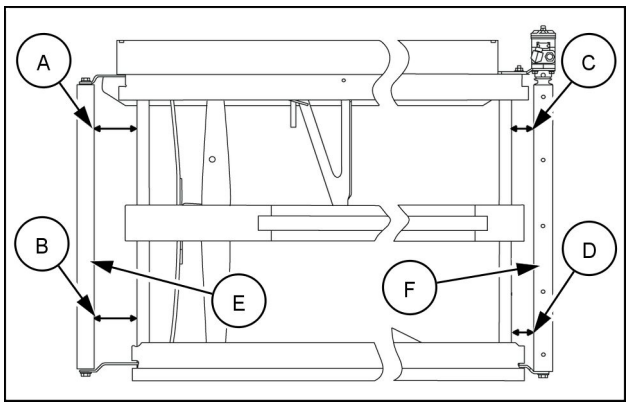
NOTICE: *To avoid damage of the draper belt, rollers and/or adjusting components, DO NOT operate the head with the draper belt tension set so that the red indicator bar is NOT visible in the window.*



NHIL14GH00591AA 1

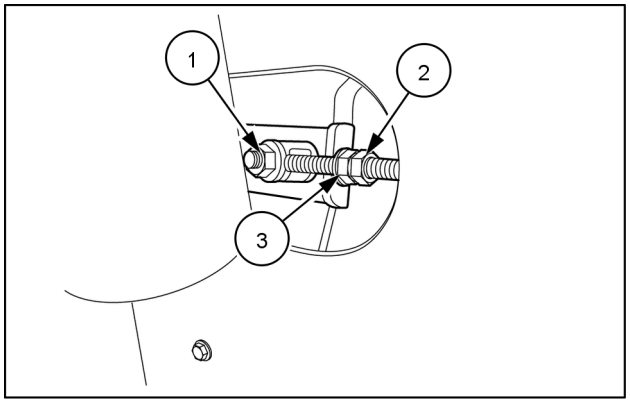
Draper belt tracking

3. Measure the distance **(A)**, **(B)**, **(C)**, and **(D)** from each roller to the channel.



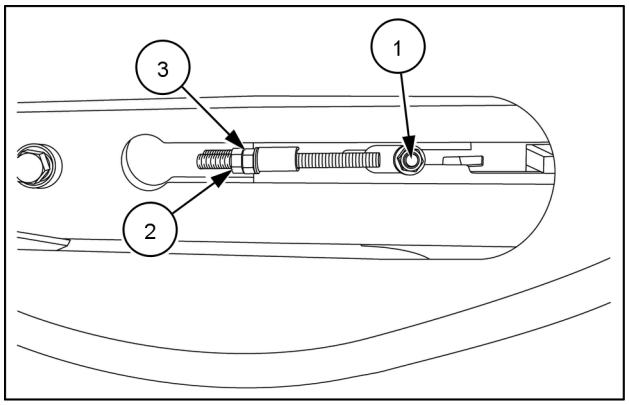
83114782 2

4. Align the drive roller **(F)** first by loosening the nuts **(1)** and jam nut **(2)**.
5. Turn the adjuster nut **(3)** until **(C)** and **(D)** are within **2.00 mm** (**0.08 in**).
6. Tighten the nuts **(1)** and jam nut **(2)**.



83112602 3

7. Align the idler roller **(E)** by loosening the nut **(1)** and jam nut **(2)**.
8. Turn the adjuster nut **(3)** until **(A)** and **(B)** are within **2.00 mm** (**0.08 in**).



83112597 4

Every 25 hours

Grease fittings

⚠ WARNING

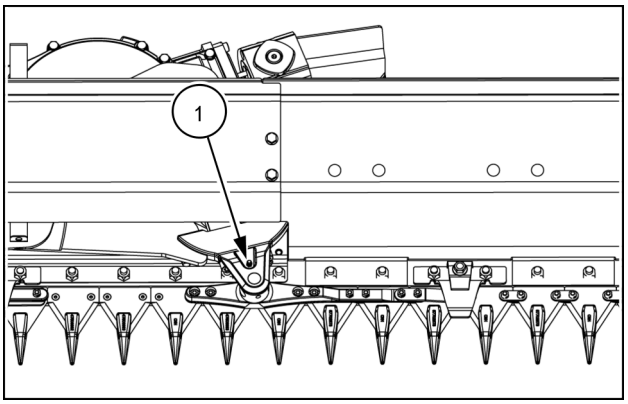
Avoid injury! Always do the following before lubricating, maintaining, or servicing the machine.
1. **Disengage all drives.**
2. **Engage parking brake.**
3. **Lower all attachments to the ground, or raise and engage all safety locks.**
4. **Shut off engine.**
5. **Remove key from key switch.**
6. **Switch off battery key, if installed.**
7. **Wait for all machine movement to stop.**

Failure to comply could result in death or serious injury.

W0047A

Knife arm

1. Grease the knife arm bearings **(1)** every 25 hours.



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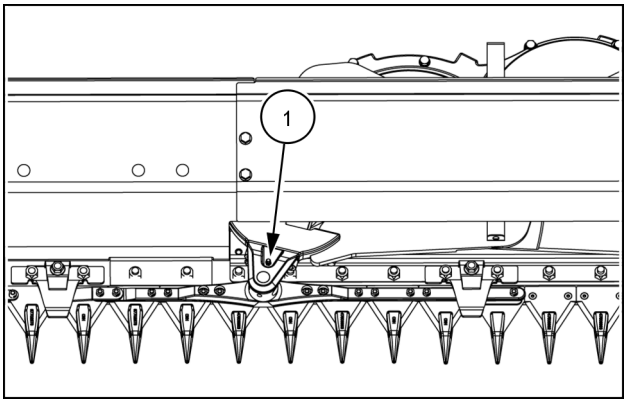
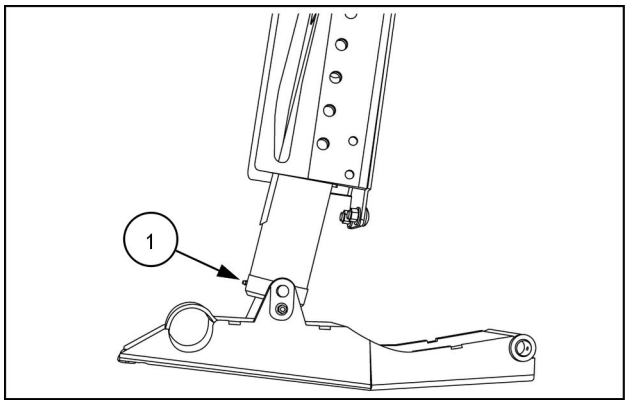


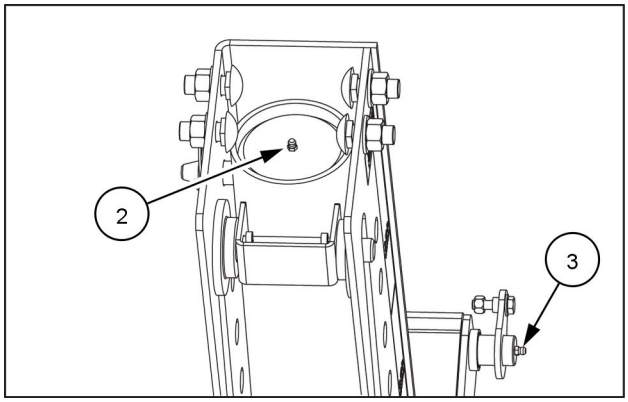
NHIL13GH00235AB 2

Gauge wheel

2. Grease the gauge wheel arm **(1)**, spring tube **(2)** and main pivot **(3)** every 25 hours.



NHIL15GH00381AA 3

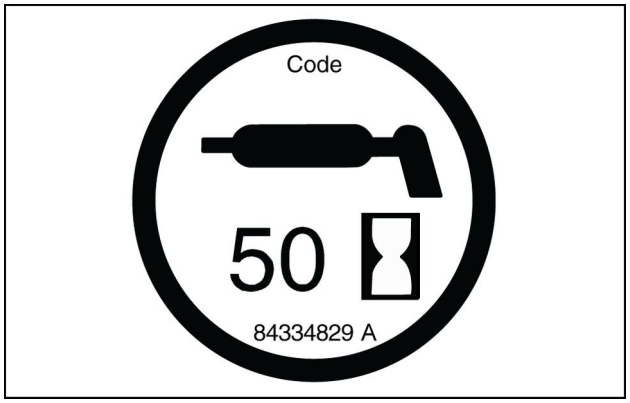


NHPE12GH10088AA 4

After the first 50 hours of operation

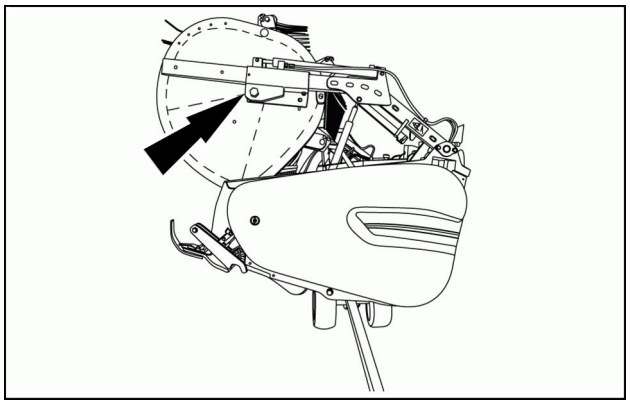
Grease fittings

1. Grease fittings on the machine that are indicated with a grease decal, have the time interval indicated.



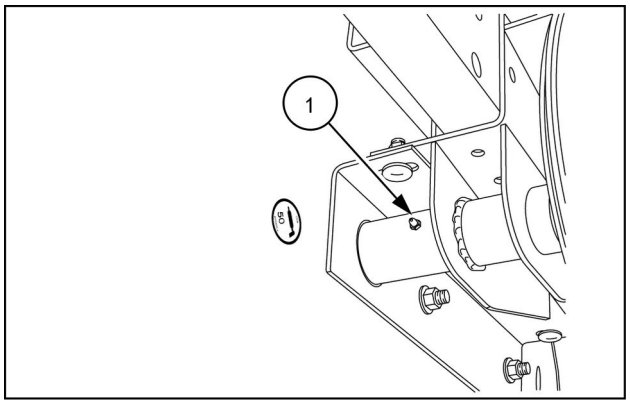
84334829 1

50 hour interval - Left-hand side



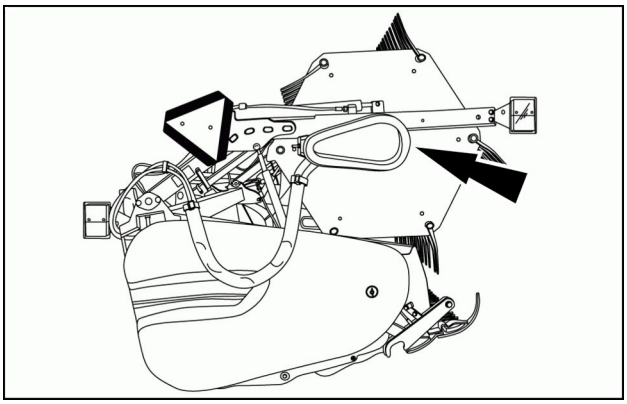
NHIL14GH00598AA 2

2. Reel bearing **(1)**.



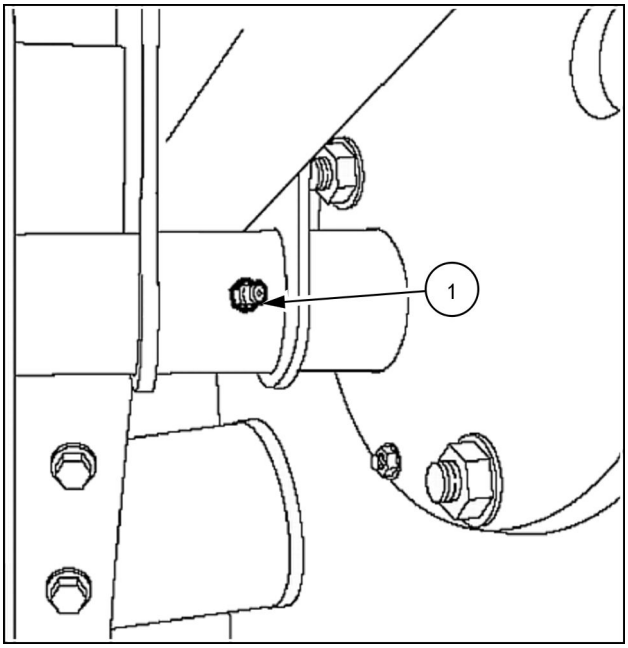
83114761 3

50 hour interval - Right-hand side



NHIL14GH00593AA 4

3. Reel bearing **(1)**.

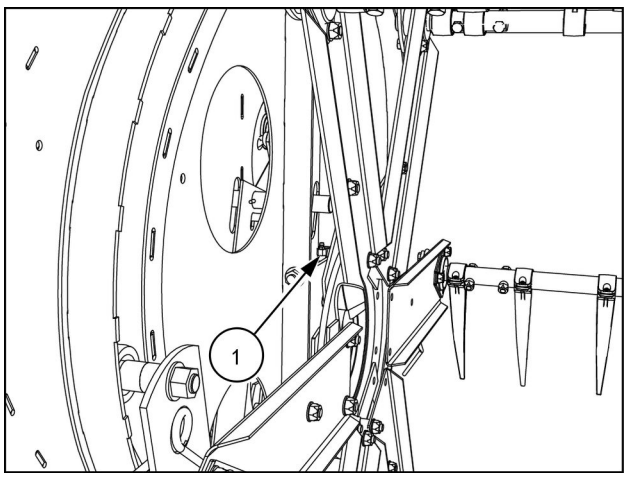


20086411 5

50 hour interval - Center

4. Center reel bearing **(1)**.

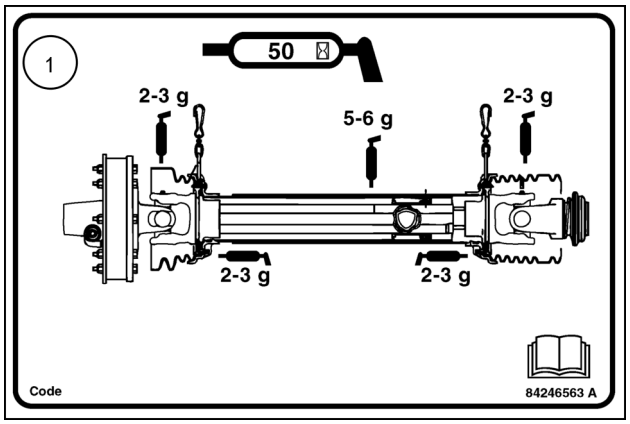
NOTE: *For split reel equipped draper headers only*



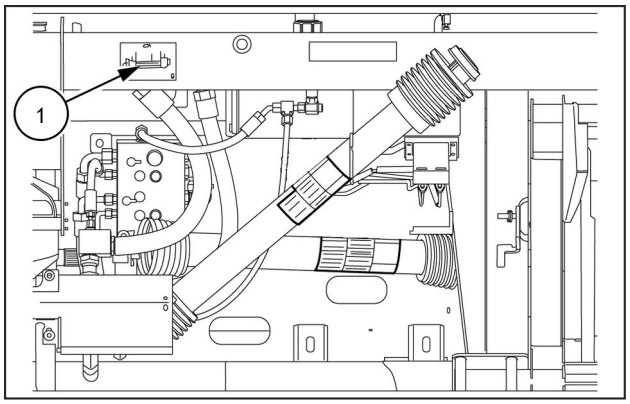
NHIL15GH00398AA 6

50 hour interval - Header drive PTO

5. Header drive PTO joint and guarding. Refer to decal **(1)**.



84246563_A 7



83112562 8

Hydraulic filter

⚠ WARNING

Avoid injury! Always do the following before lubricating, maintaining, or servicing the machine.
1. Disengage all drives.
2. Engage parking brake.
3. Lower all attachments to the ground, or raise and engage all safety locks.
4. Shut off engine.
5. Remove key from key switch.
6. Switch off battery key, if installed.
7. Wait for all machine movement to stop.
Failure to comply could result in death or serious injury.

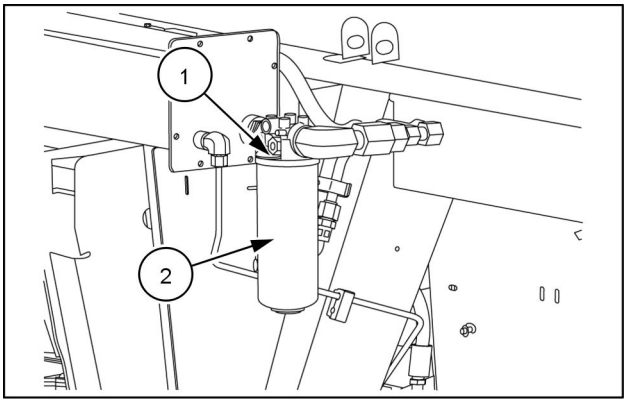
W0047A

⚠ WARNING

Pressurized hydraulic fluid can penetrate the skin and cause severe injuries.
Hydraulic fluid can also infect a minor cut or opening in the skin. Serious infection or reaction can result without immediate medical treatment. If injured by leaking fluid, see your doctor immediately.
Failure to comply could result in death or serious injury.

W0358A

1. Clean the area around the filter base **(1)**.
2. Place a suitable container under the filter **(2)** to catch any lost oil for proper disposal.



83114787 1

NOTE: *The lines are equipped with check valves to prevent the reservoir from draining while the filter is removed.*

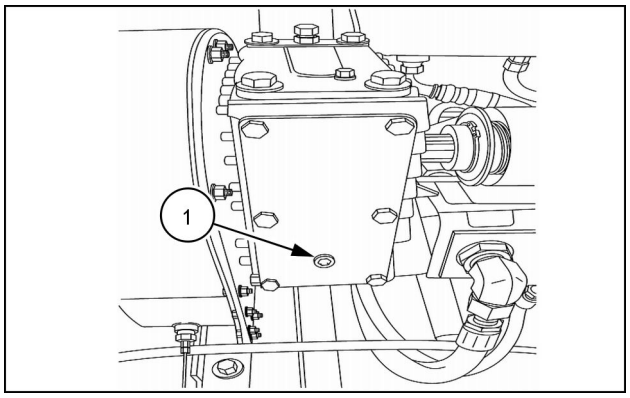
3. Remove the old filter.
4. Ensure the old gasket has been removed from the filter head.
5. Apply a thin coating of oil on the new filter gasket.
6. Install the new filter.

NOTICE: *Hand tighten only. The use of tools will overtighten the filter, potentially causing leaks.*

7. Check the reservoirs and fill if necessary.

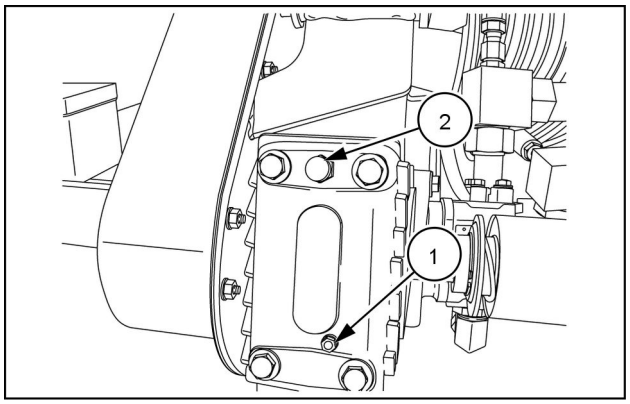
Gearbox

1. Remove the drain plug **(1)** drain the used oil into a suitable container.
2. Install the drain plug and tighten.



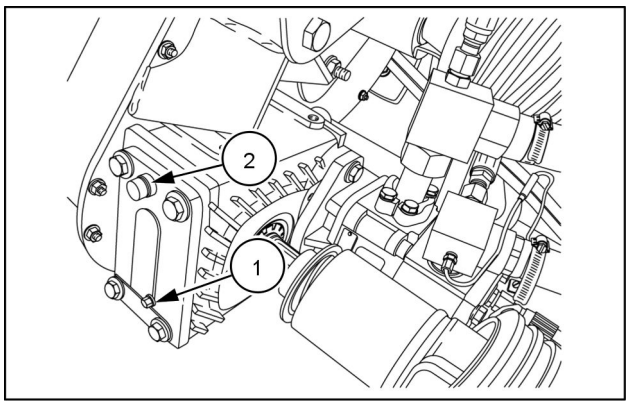
83114738 1

3. Remove the check plug **(1)**.
4. Remove the breather **(2)**.



83114743 2

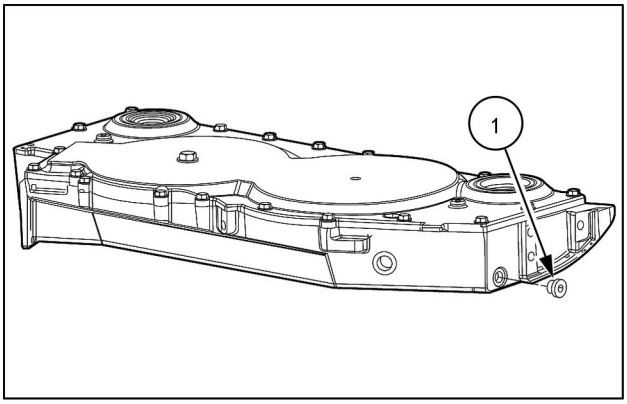
5. Fill with approximately **1.5 l** (**3.2 US pt**) of **NEW HOLLAND AMBRA HYPOIDE 90** until oil runs from check bolt hole **(1)**.
6. Install check plug and tighten.
7. Install breather plug **(2)** and tighten.



83114744 3

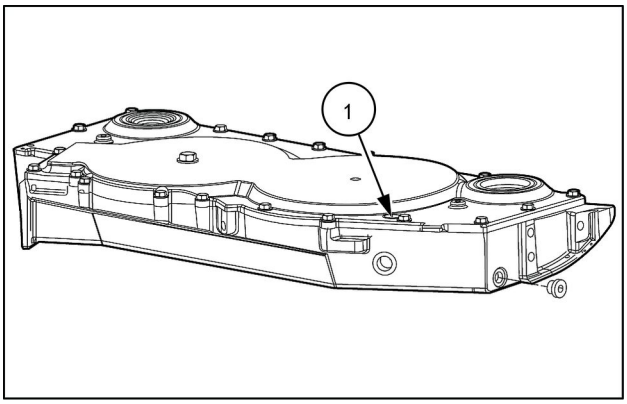
Knife drive

1. Remove the drain plug **(1)** and drain the oil into a suitable container.
2. When the oil is completely drained install and tighten the drain plug **(1)**.



83112580 1

3. Remove the fill plug **(1)**.
4. Fill oil in the gearbox through plug hole **(1)**.
5. Check the oil level as described in section **6-44**.

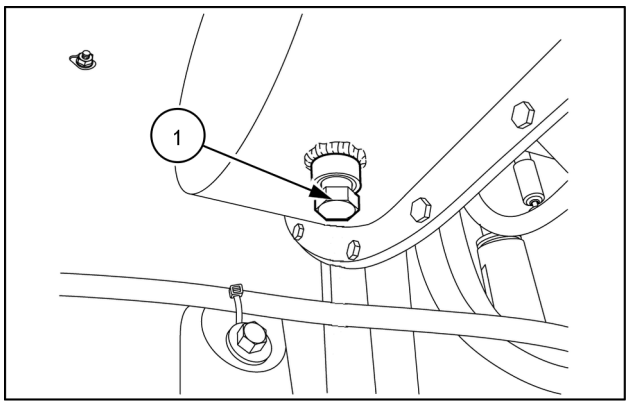


83112580 2

Gearbox capacity	Oil specification
6 l (**1.6 US gal**).	Use **NEW HOLLAND AMBRA HYPOIDE 90**, or an oil meeting the following specifications: • API GL-5 • MIL-L-2105D

Auger drive chain case

1. Remove drain plug **(1)** and drain oil into a suitable container.
2. Remove the breather.
3. Use a thread sealant and install the drain plug.
4. Fill the chain case with approximately **4.5 l** (**4.75 US qt**) of **NEW HOLLAND AMBRA HYPOIDE 90**
5. The oil should almost completely fill the sight glass.
6. Install the breather.



83114718 1

Transport wheel torque

⚠ WARNING

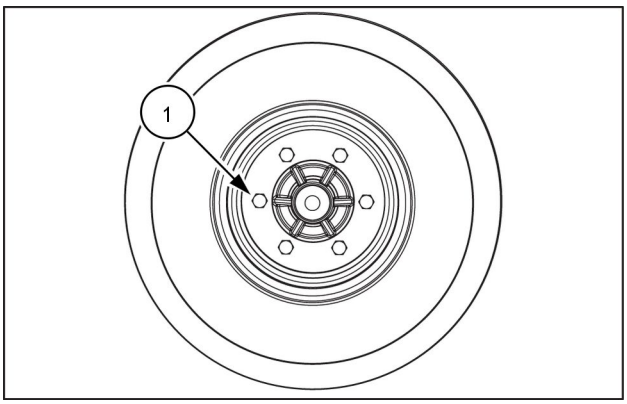
Avoid injury! Always do the following before lubricating, maintaining, or servicing the machine.
1. **Disengage all drives.**
2. **Engage parking brake.**
3. **Lower all attachments to the ground, or raise and engage all safety locks.**
4. **Shut off engine.**
5. **Remove key from key switch.**
6. **Switch off battery key, if installed.**
7. **Wait for all machine movement to stop.**

Failure to comply could result in death or serious injury.

W0047A

Front tires

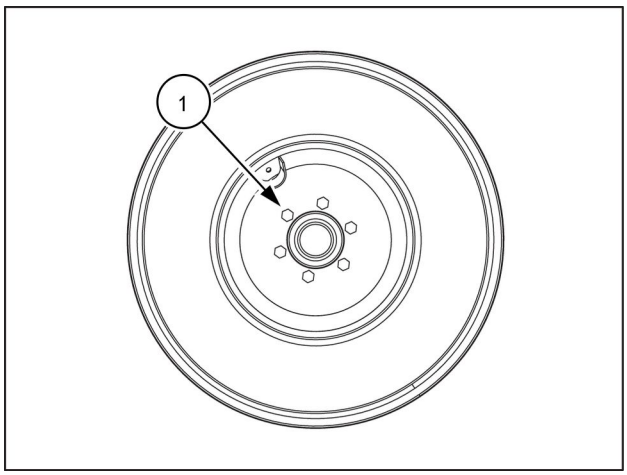
1. Check the wheel bolts for torque of **149 - 156 N·m** (**110 - 115 lb ft**).
2. Check tire pressure of **620.5 kPa** (**90 psi**).



NHPE12GH00244AA 1

Rear tires

3. Check the wheel bolts for torque of **170 - 197 N·m** (**125 - 145 lb ft**).
4. Check tire pressure of **620.5 kPa** (**90 psi**).



NHPE12GH00245AA 2

Transport wheel torque

⚠ WARNING

Avoid injury! Always do the following before lubricating, maintaining, or servicing the machine.
1. Disengage all drives.
2. Engage parking brake.
3. Lower all attachments to the ground, or raise and engage all safety locks.
4. Shut off engine.
5. Remove key from key switch.
6. Switch off battery key, if installed.
7. Wait for all machine movement to stop.
Failure to comply could result in death or serious injury.

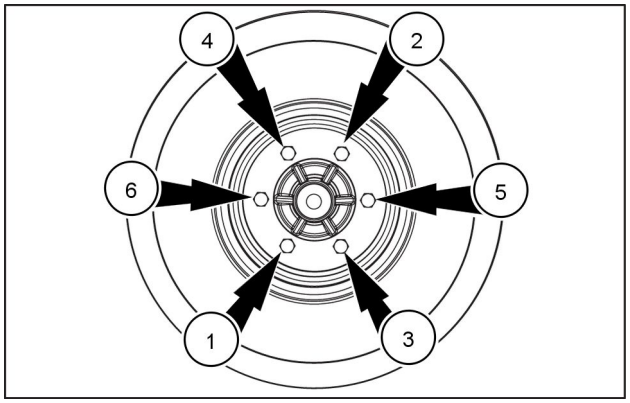
W0047A

1. Tighten the wheel bolts to finger tight if they have been removed.

NOTICE: *Wheel bolts should be turned in at least three full turns by hand before using power tools to prevent thread damage.*

Front tires

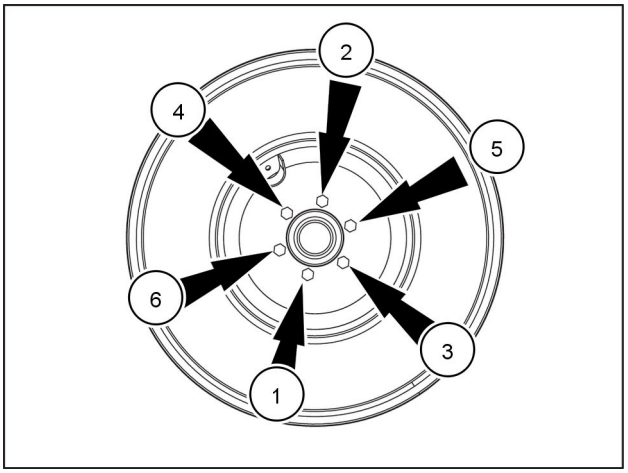
2. Tighten the front wheel bolts following the star pattern to a torque of **149 - 156 N·m** (**110 - 115 lb ft**).



NHPE12GH00244AA 1

Rear tires

3. Tighten the rear wheel bolts following the star pattern to a torque of **170 - 197 N·m** (**125 - 145 lb ft**).

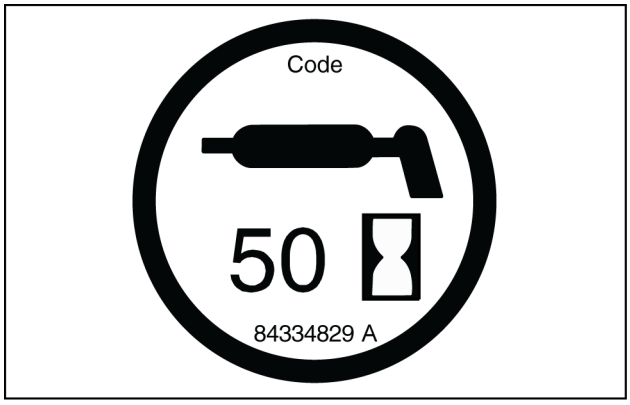


NHPE12GH00245AA 2

Every 50 hours

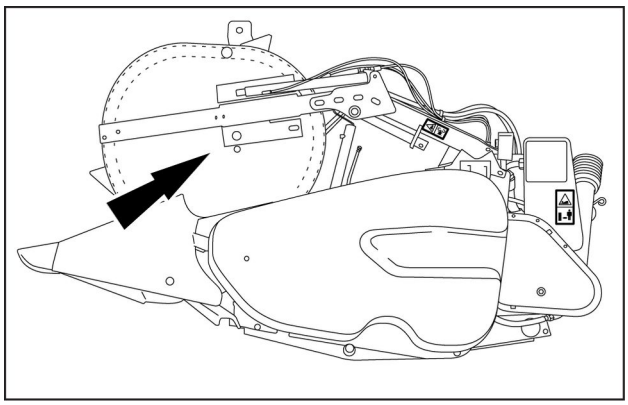
Grease fittings

1. Grease fittings on the machine that are indicated with a grease decal, have the time interval indicated.



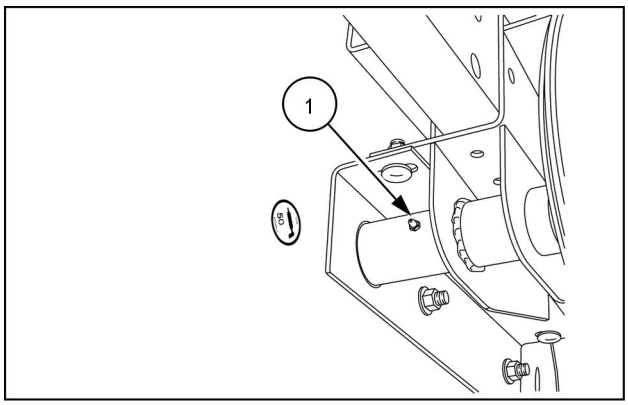
84334829 1

50 hour interval - left-hand side



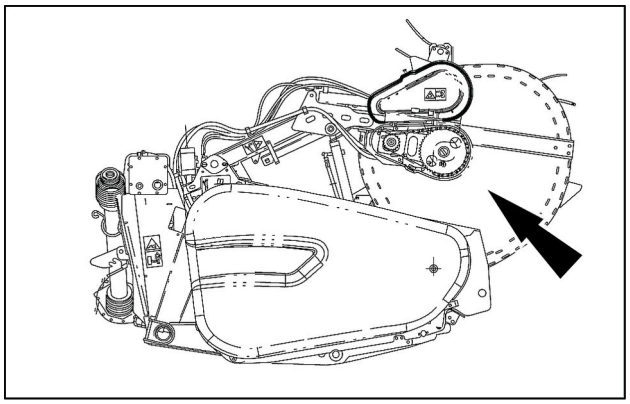
83112570 2

2. Reel bearing **(1)**.



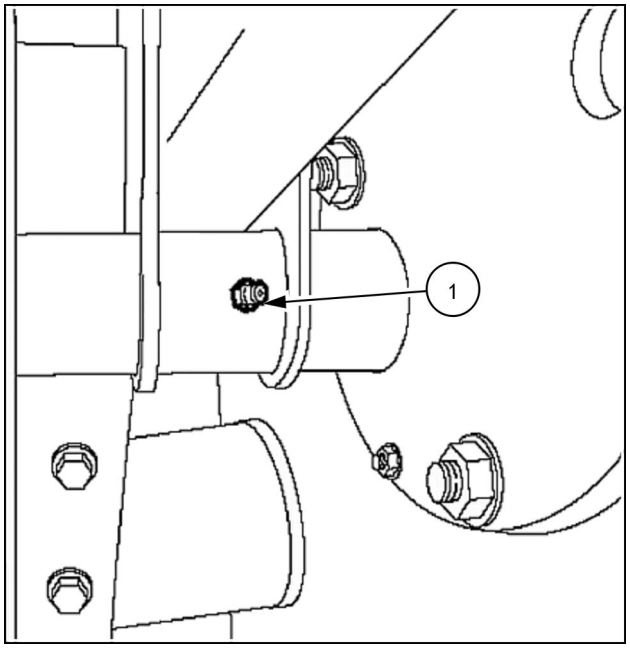
83114761 3

50 hour interval - right-hand side



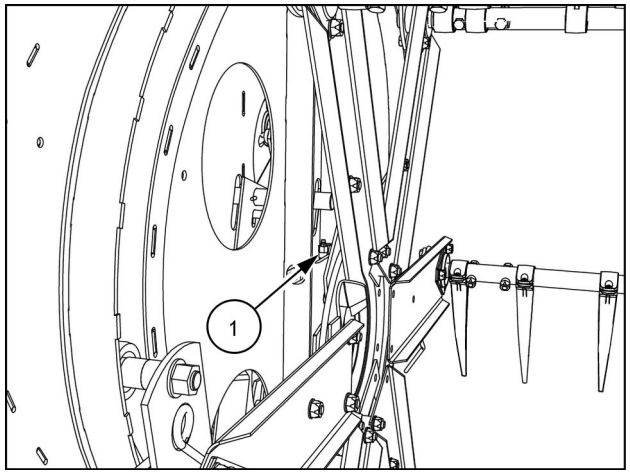
83112553 4

3. Reel bearing **(1)**.



20086411 5

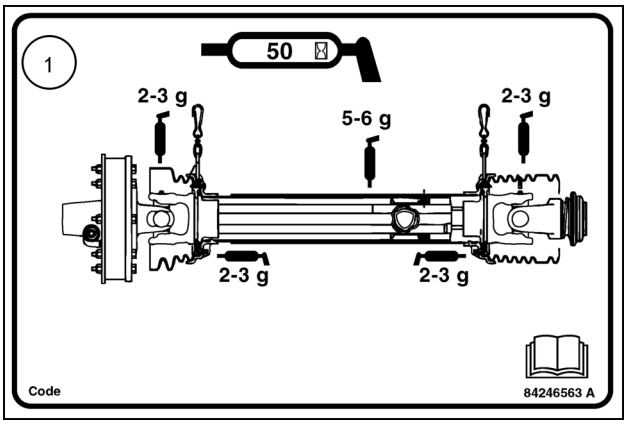
4. Center reel bearing **(1)**, split reel equipped heads only.



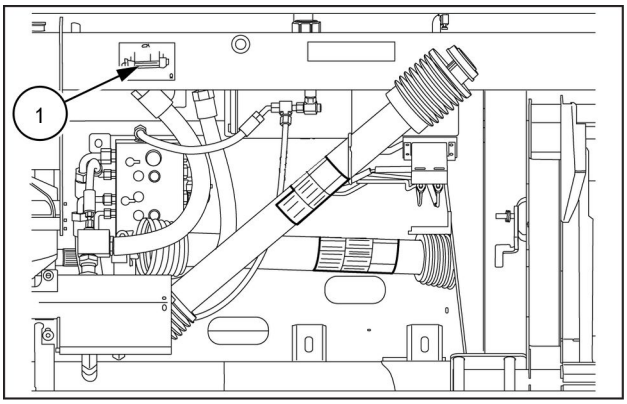
NHIL15GH00398AA 6

50 hour interval - Header drive PTO

5. Header drive PTO joint and guarding. Refer to decal **(1)**.



84246563_A 7



83112562 8

Auger drive chain case

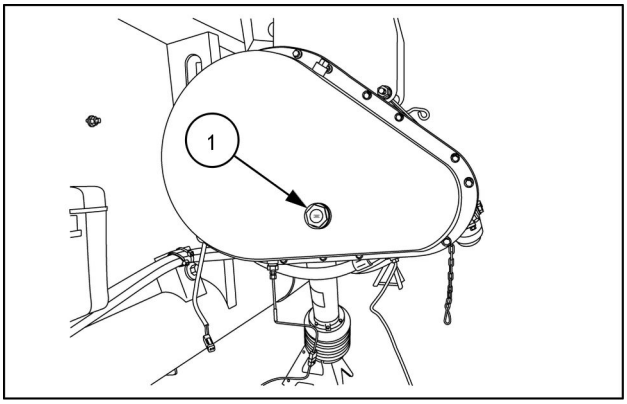
⚠ WARNING

Avoid injury! Always do the following before lubricating, maintaining, or servicing the machine.
1. Disengage all drives.
2. Engage parking brake.
3. Lower all attachments to the ground, or raise and engage all safety locks.
4. Shut off engine.
5. Remove key from key switch.
6. Switch off battery key, if installed.
7. Wait for all machine movement to stop.
Failure to comply could result in death or serious injury.

W0047A

The oil should be visible in the top half of the sight glass (1).

1. Check oil level every 50 hours.



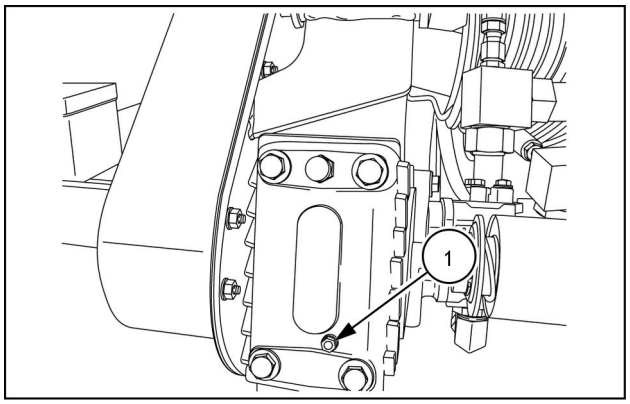
83114763 1

Gearbox

1. Lower the header to the ground.
2. Remove check plug **(1)**.

NOTE: *Oil should just barely come out of the check hole.*

3. Install the check plug.
4. Check oil level every 50 hours.



83114743 1

Knife drive

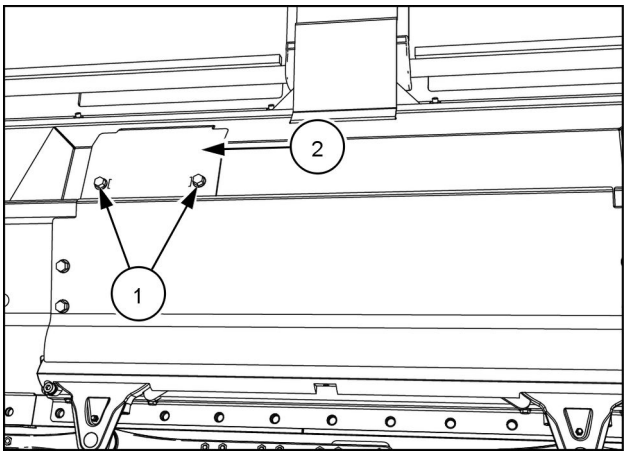
⚠ WARNING

Avoid injury! Always do the following before lubricating, maintaining, or servicing the machine.
1. Disengage all drives.
2. Engage parking brake.
3. Lower all attachments to the ground, or raise and engage all safety locks.
4. Shut off engine.
5. Remove key from key switch.
6. Switch off battery key, if installed.
7. Wait for all machine movement to stop.
Failure to comply could result in death or serious injury.

W0047A

Oil level

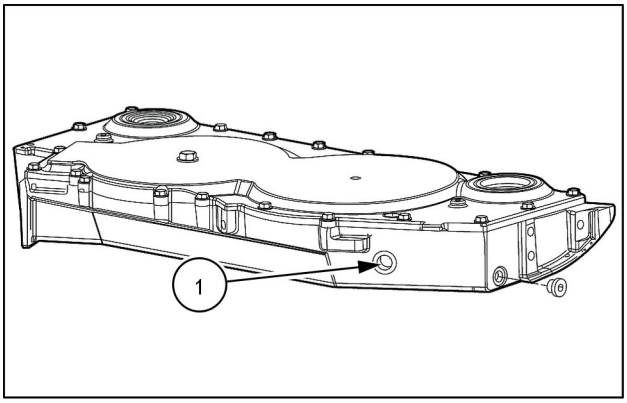
1. Check the oil level in the knife drive wobble box **(1)** every 50 operating hours.



NHIL15GH00397AA 1

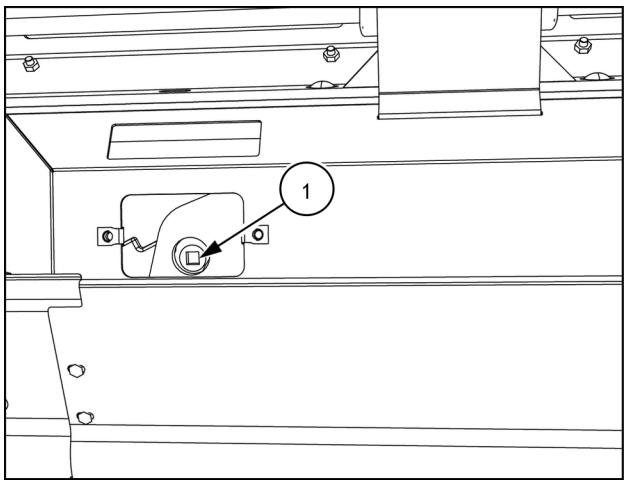
2. Lower the header to the ground while attached to the combine.
3. Remove the two access cover bolts **(1)**.
4. Remove the access cover **(2)**.

NOTE: *Oil should be visible in the sight glass **(1)**.*



83112580 2

5. If oil level is low, remove fill plug/breather **(1)**.



NHIL15GH00396AA 3

Every 600 hours or annually

Auger drive chain case

⚠ WARNING

Avoid injury! Always do the following before lubricating, maintaining, or servicing the machine.
1. Disengage all drives.
2. Engage parking brake.
3. Lower all attachments to the ground, or raise and engage all safety locks.
4. Shut off engine.
5. Remove key from key switch.
6. Switch off battery key, if installed.
7. Wait for all machine movement to stop.
Failure to comply could result in death or serious injury.

W0047A

Change oil:

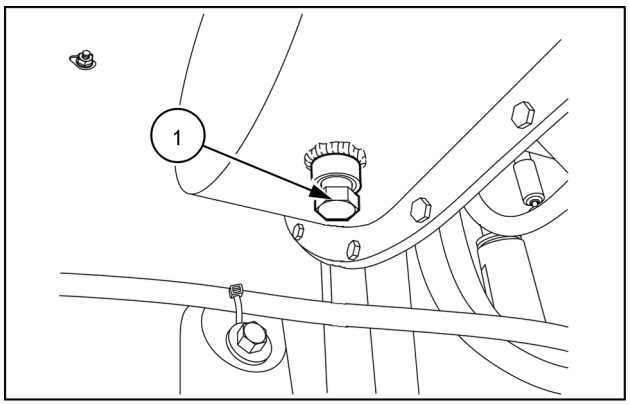
After the first 50 hours of operation.

Every 600 operating hours or annually.

1. Remove drain plug **(1)** and drain oil into a suitable container.
2. Remove the breather.
3. Use a thread sealant and install the drain plug.
4. Fill the chain case with approximately **5 l** (**5.3 US qt**) of **NEW HOLLAND AMBRA HYPOIDE 90**.

NOTE: *The oil should almost completely fill the sight glass.*

5. Install the breather.



83114718 1

Hydraulic reservoir fluid level – Main

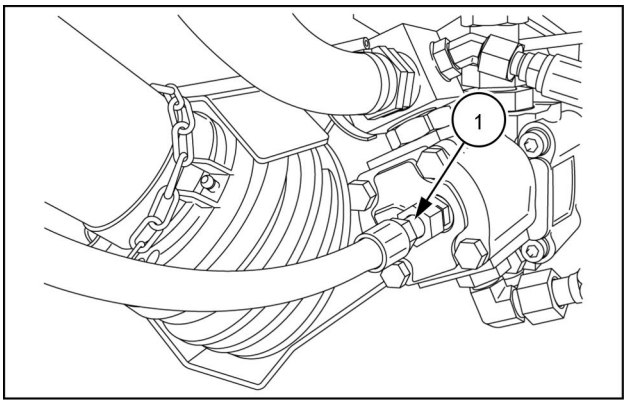
⚠ WARNING

Avoid injury! Always do the following before lubricating, maintaining, or servicing the machine.
1. Disengage all drives.
2. Engage parking brake.
3. Lower all attachments to the ground, or raise and engage all safety locks.
4. Shut off engine.
5. Remove key from key switch.
6. Switch off battery key, if installed.
7. Wait for all machine movement to stop.
Failure to comply could result in death or serious injury.

W0047A

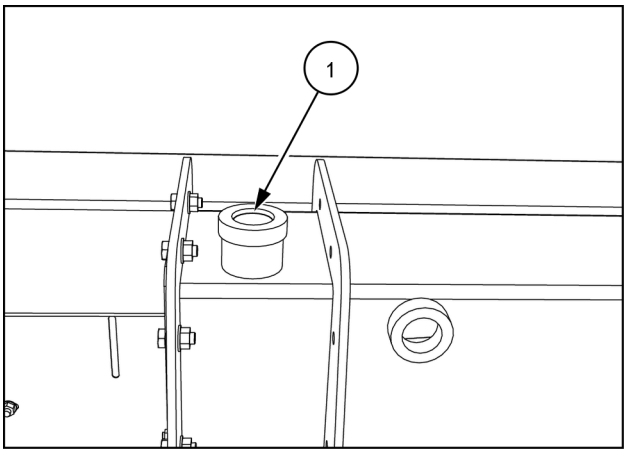
NOTE: *Change oil every 600 hours or annually.*

1. Tilt the header so the left-hand side is lower than the right-hand side.
2. Disconnect the hose **(1)** and drain oil into a suitable container capable of holding at least **95 l** (**25 US gal**).
3. Remove the overflow reservoir hose to allow tank to vent.
4. When the oil is done draining connect hoses **(1)**.



83117561 1

5. Tilt the header so the right-hand side of the head is lower than the left-hand side.
6. Remove fill plug **(1)**.
7. Fill with approximately **92.4 l** (**24.4 US gal**) of **NEW HOLLAND AMBRA MASTERTRAN™ HYDRAULIC TRANSMISSION OIL**.
8. Check the expansion reservoir oil level, add oil if needed. Refer to **6-48**.

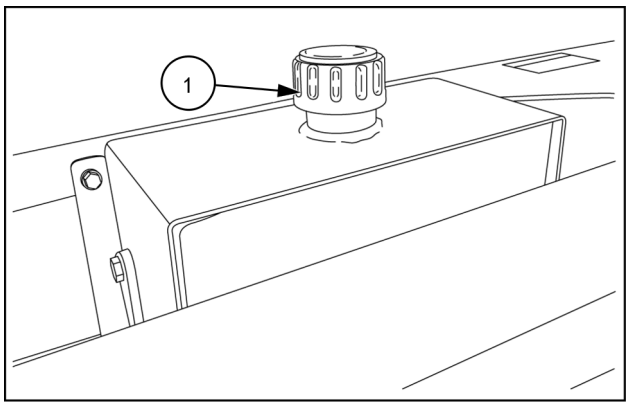


NHIL15GH00401AA 2

Hydraulic reservoir fluid level – Expansion

To add oil

1. Remove the cap **(1)** from the expansion reservoir.
2. Add enough oil to raise the fluid level between the red and black marks on the decal.
3. Install and tighten reservoir cap.

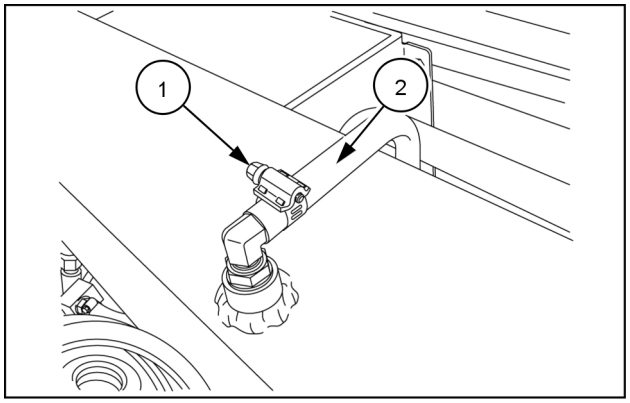


83114779 1

To change oil

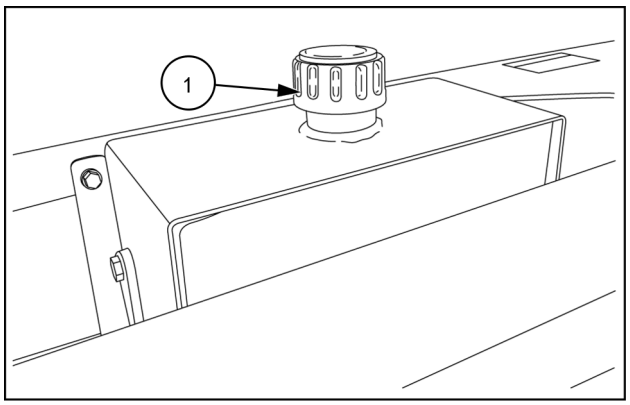
NOTE: *The expansion reservoir should be changed with the main hydraulic reservoir.*

1. Loosen the clamp **(1)** and remove the hose **(2)** from the main reservoir.
2. Drain the oil into a suitable container for disposal.
3. When oil is finished draining connect the hose.



83117562 2

4. Remove the reservoir cap.
5. Fill the reservoir with approximately **3.3 l** (**3.5 US qt**) of **NEW HOLLAND AMBRA MASTERTRAN™ HYDRAULIC TRANSMISSION OIL**.
6. Install reservoir cap.



83114779 3

Hydraulic filter

⚠ WARNING

Avoid injury! Always do the following before lubricating, maintaining, or servicing the machine.
1. Disengage all drives.
2. Engage parking brake.
3. Lower all attachments to the ground, or raise and engage all safety locks.
4. Shut off engine.
5. Remove key from key switch.
6. Switch off battery key, if installed.
7. Wait for all machine movement to stop.
Failure to comply could result in death or serious injury.

W0047A

⚠ WARNING

Pressurized hydraulic fluid can penetrate the skin and cause severe injuries.
Hydraulic fluid can also infect a minor cut or opening in the skin. Serious infection or reaction can result without immediate medical treatment. If injured by leaking fluid, see your doctor immediately.
Failure to comply could result in death or serious injury.

W0358A

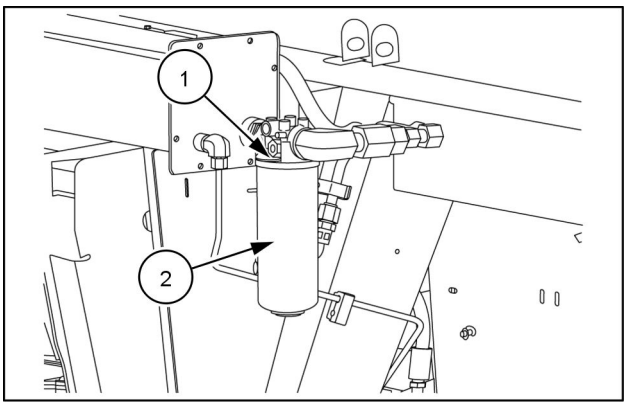
Change the oil filter:

After the first 50 hours.

Every 600 hours or annually.

1. Clean the area around the filter base **(1)**.
2. Place a suitable container under the filter **(2)** to catch any lost oil for proper disposal.

NOTE: *The lines are equipped with check valves to prevent the reservoir from draining while the filter is removed.*



83114787 1

3. Remove the old filter.
4. Ensure the old gasket has been removed from the filter head.
5. Apply a thin coating of oil on the new filter gasket.
6. Install the new filter.

NOTICE: *Hand tighten only. The use of tools will over-tighten the filter, potentially causing leaks.*

7. Check the reservoirs and fill if necessary, refer to **6-25** and **6-26**.

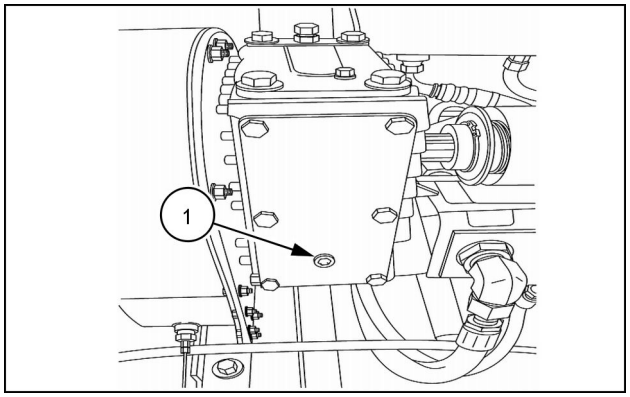
Hydraulic pump drive

Change oil after:

After the first 50 hours.

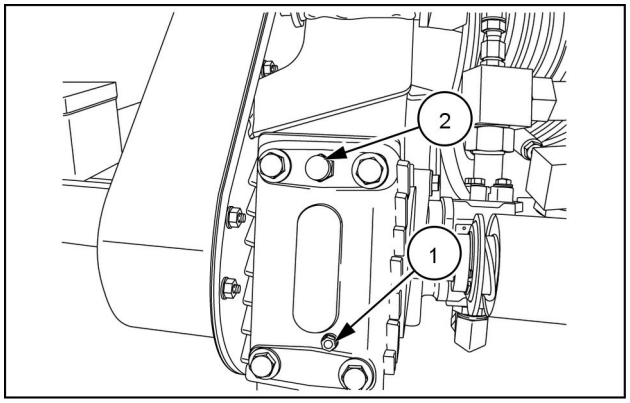
Every 600 operating hours or annually.

1. Remove the drain plug **(1)** drain the used oil into a suitable container.



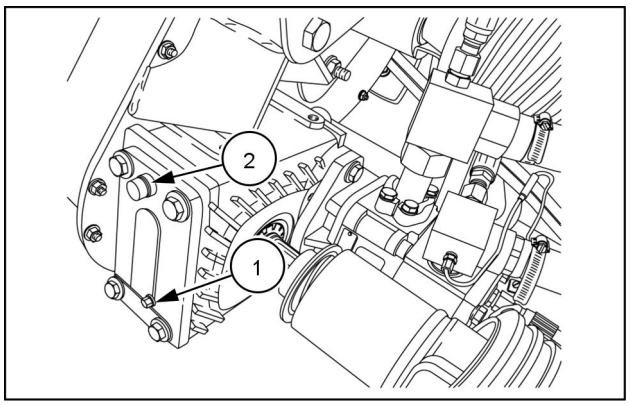
83114738 1

2. Install the drain plug and tighten.
3. Remove the check plug **(1)**.
4. Remove the breather **(2)**.



83114743 2

5. Fill with approximately **1.5 l** (**4 US pt**) of **NEW HOLLAND AMBRA HYPOIDE 90** until oil runs from check bolt hole **(1)**.
6. Install check plug and tighten.
7. Install breather plug **(2)** and tighten.



83114744 3

Knife drive

⚠ WARNING

Avoid injury! Always do the following before lubricating, maintaining, or servicing the machine.
1. **Disengage all drives.**
2. **Engage parking brake.**
3. **Lower all attachments to the ground, or raise and engage all safety locks.**
4. **Shut off engine.**
5. **Remove key from key switch.**
6. **Switch off battery key, if installed.**
7. **Wait for all machine movement to stop.**

Failure to comply could result in death or serious injury.

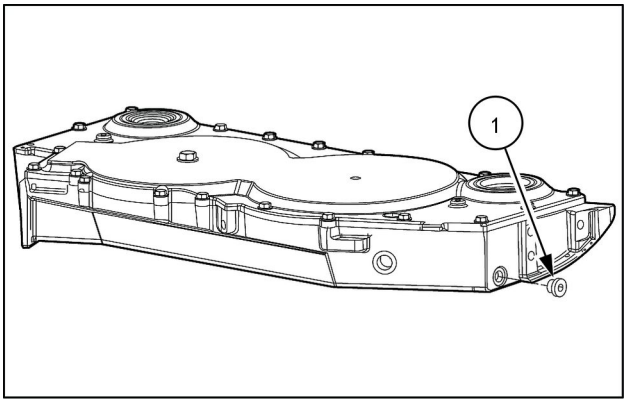
W0047A

Change oil after:

The first 50 operating hours

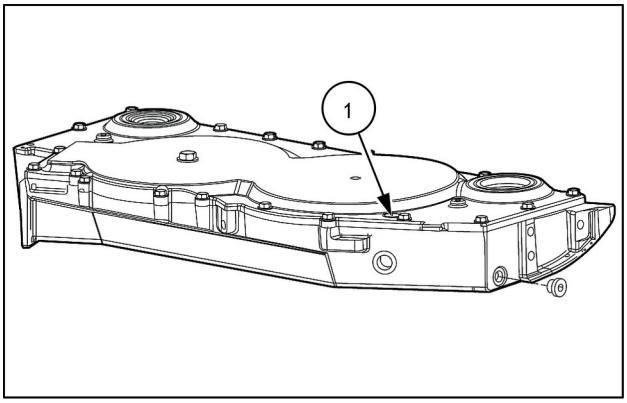
Every 600 operating hours or annually

1. Remove the drain plug **(1)** and drain the oil into a suitable container.
2. When the oil is completely drained install and tighten the drain plug **(1)**.
3. Remove the fill plug **(1)**.
4. Fill oil in the gearbox through plug hole **(1)**.



83112580 1

5. Check the oil level as described in section: **6-44**.



83112580 2

Gearbox capacity	Oil specification
6 l (**1.6 US gal**).	Use **NEW HOLLAND AMBRA HYPOIDE 90**, or an oil meeting the following specifications: • API GL-5 • MIL-L-2105D

STORAGE

Attachment/Header reel - Storing

⚠ CAUTION

Hazardous chemicals!
Never clean with gasoline, naphtha, or any other volatile materials. These materials are toxic and/or flammable.
Failure to comply could result in minor or moderate injury.

C0061A

⚠ WARNING

Cutting hazard!
Cover the cutter bar and sickle guards to prevent injury from accidental contact.
Failure to comply could result in death or serious injury.

W0458A

NOTE: *Do the following at the end of each operating season:*

1. Clean the header thoroughly.
2. Store the machine in a dry, protected place if possible. If stored outside, always cover with a waterproof canvas or other protective material.
3. Release draper tension for storage.

NOTE: *This will help prevent stretching or cracking due to moisture and freezing.*

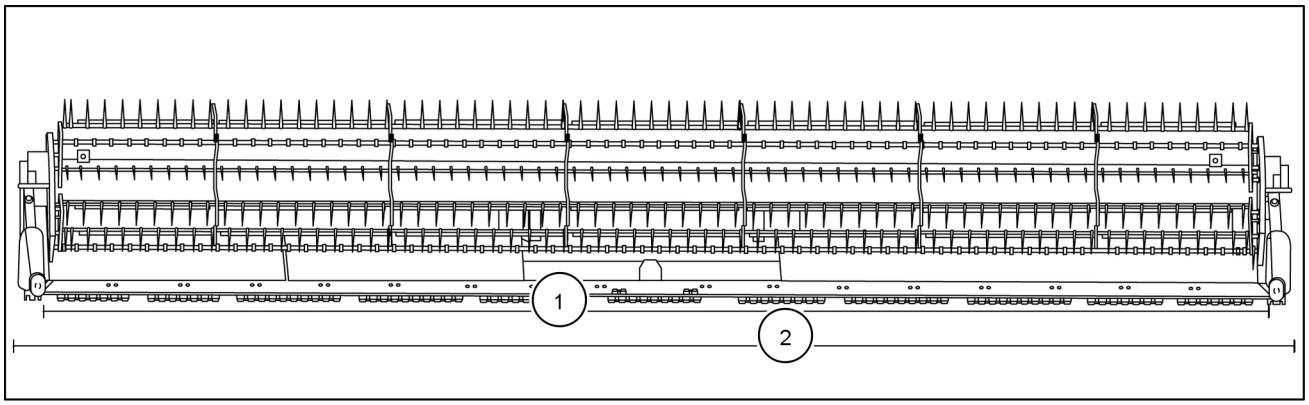
4. If machine is stored outside, remove drapers and store in a dark, dry place.

NOTE: *If drapers are not removed, store header with cutterbar lowered so water/snow will not accumulate on drapers. This accumulation of weight puts excessive stress on drapers and header*

5. Lower header onto blocks to keep cutterbar off the ground.
6. Lower reel completely. If stored outside, tie reel to frame to prevent rotation caused by wind.
7. Repaint all worn or chipped painted surfaces to prevent rust.
8. Lubricate the header thoroughly, leaving excess grease on fittings to keep moisture out of bearings. Apply grease to exposed threads, cylinder rods and sliding surfaces of components. Oil sickle components to prevent rust.
9. Check for worn or broken components and repair or order replacement from your dealer. Attention to these items right away will save time and effort at beginning of next season.
10. Replace or tighten any missing or loose hardware. Refer to torque values. Refer to **6-1**.

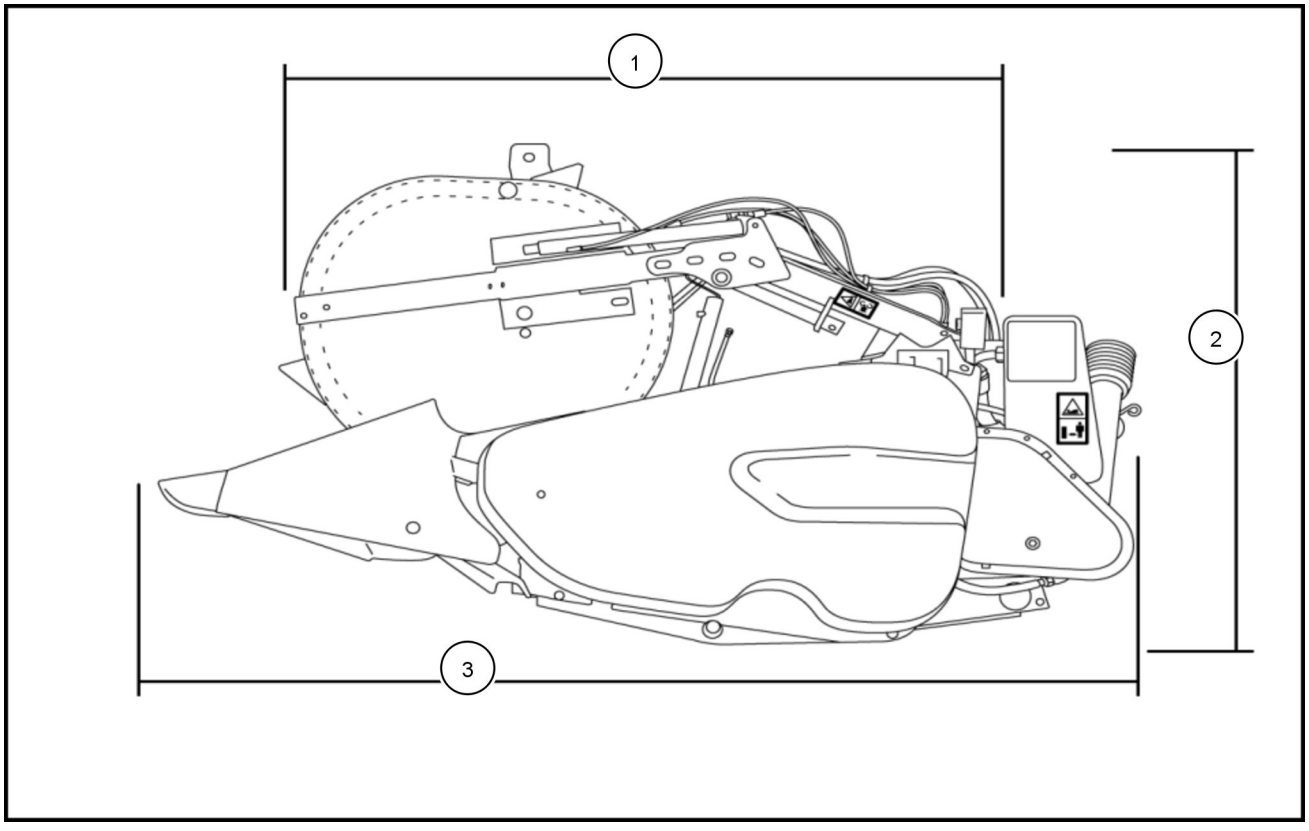
7 - SPECIFICATIONS

Machine specifications and dimensions - For flex headers



83112577 A 1

(1)	(2)
9.1 m (30 ft)	**9.3 m (30.4 ft)**
10.7 m (35 ft)	**10.8 m (35.4 ft)**
12.2 m (40 ft)	**12.3 m (40.4 ft)**
13.7 m (45 ft)	**13.8 m (45.4 ft)**

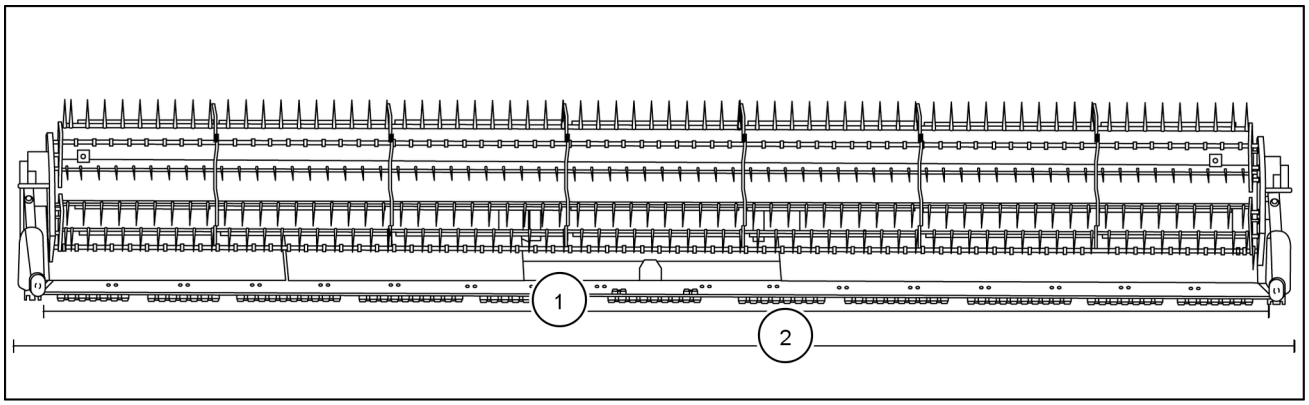


83112570 A 2

(1) 2103.6 mm (82.8 in)	(2) 1733 mm (68 in)	(3) 4105 mm (161.6 in)

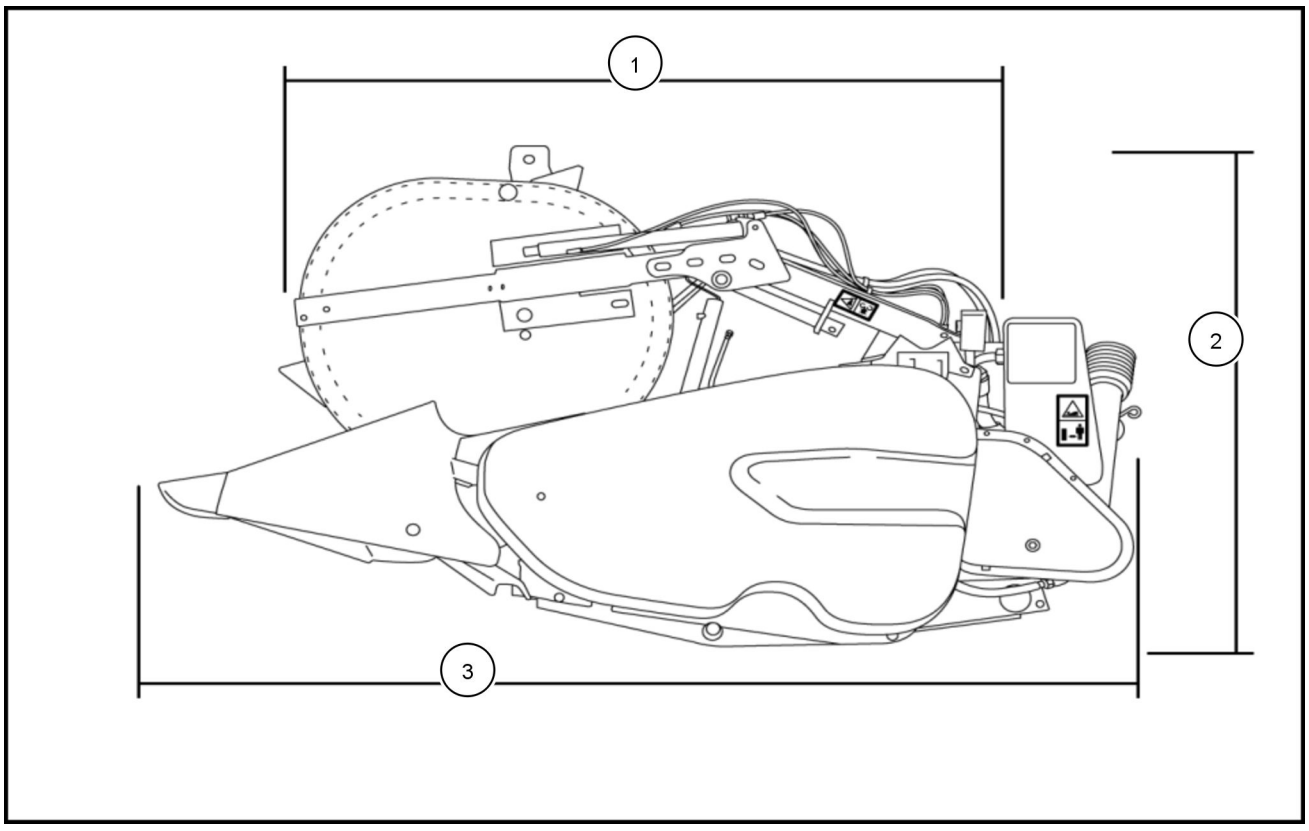
PTO Drive	Free Motion PTO.
Knife	
Type	Over serrated knife
Speed	630 cycles/min (1260 cuts/min)
Drive	Hydraulic powered gearbox with counter stroking dual knife
Reel	
Drive	Hydraulically
Speed Adjustment	Electrically controlled from the combine
Speed Range	Variable from **0 - 60 RPM**
Diameter	**1070 mm** (**42.1 in**)
Horizontal stroke	**578 mm** (**23 in**)
Vertical stroke	**201 mm** (**8 in**)
Header recognition sensor	standard
Maximum lift height (header bottom to the center of the reel)	**1845 mm** (**72.6 in**)
Bars	6
Auger	
Tube diameter	**406 mm** (**16.0 in**)
Flighting height	**127 mm** (**5 in**)
Speed range	
With 43-tooth sprocket	**147 RPM**
Protection	Slip clutch on PTO. shaft
Slip clutch set at:	**737 N·m** (**544 lb ft**)
Drive	Chain drive from main shaft
Fingers (number fitted)	21
Weight	
30 ft	**3456 kg** (**7620 lb**)
35 ft	**3937 kg** (**8680 lb**)
40 ft	**4717 kg** (**10400 lb**)
45 ft	**5066 kg** (**11170 lb**)

Machine specifications and dimensions - For rigid headers



83112577 A 1

(1)	(2)
7.6 m (25 ft)	7.7 m (25.4 ft)
9.1 m (30 ft)	9.3 m (30.4 ft)
10.7 m (35 ft)	10.8 m (35.4 ft)
12.2 m (40 ft)	12.3 m (40.4 ft)
13.7 m (45 ft)	13.8 m (45.4 ft)



83112570 A 2

(1) 2103.6 mm (82.8 in)	(2) 1733 mm (68 in)	(3) 3003 mm (118.2 in)

PTO Drive	Free Motion PTO.
Knife	
Type	Over serrated knife
Speed	630 cycles/min (1260 cuts/min)
Drive	Hydraulic powered gearbox with counter stroking dual knife
Reel	
Drive	Hydraulically
Speed Adjustment	Electrically controlled from the combine
Speed Range	Variable from **0 - 60 RPM**
Diameter	**1070 mm** (**42.1 in**)
Horizontal stroke	**578 mm** (**23 in**)
Vertical stroke	**201 mm** (**8 in**)
Header recognition sensor	standard
Maximum lift height (header bottom to the center of the reel)	**1845 mm** (**72.6 in**)
Bars	6
Auger	
Tube diameter	**406 mm** (**16.0 in**)
Flighting height	**127 mm** (**5 in**)
Speed range	
With 43-tooth sprocket	**147 RPM**
Protection	Slip clutch on PTO. shaft
Slip clutch set at:	**737 N·m** (**544 lb ft**)
Drive	Chain drive from main shaft
Fingers (number fitted)	21
Weight	
25 ft	**2364 kg** (**5212 lb**)
30 ft	**2837 kg** (**6255 lb**)
35 ft	**3742 kg** (**8250 lb**)
40 ft	**3955 kg** (**8720 lb**)
45 ft	**4626 kg** (**10200 lb**)

8 - FORMS AND DECLARATIONS

Delivery report - Owner Copy

Delivery Date _____

Owner's Name _____

Address _____

Dealer's Name _____

Address _____

Unit:	Model	_____	Product Identification Number	_____
Engine:	Model	_____	Product Identification Number	_____
Attachment:	Model	_____	Product Identification Number	_____
	Model	_____	Product Identification Number	_____
	Model	_____	Product Identification Number	_____

Using the operator's manual as a guide, instruction was given as indicated by the check marks.

( ) Safety precautions and practice
( ) Lubrication points and schedule
( ) Maintenance areas, adjustments, and schedule
( ) Field adjustments for various crop conditions
( ) Operation
( ) Use of optional equipment
( ) Preseason service
( ) End-of-season service
( ) Proper use of operator's manual
( ) Customer given operator's manual
( ) All safety shielding is installed

Dealer Representative's Signature _____

"I have been instructed in the operation, maintenance, and safety features of this machine as detailed in the operator's manual."

Owner's Signature _____

Delivery report - Dealer Copy

Delivery Date _____

Owner's Name _____

Address _____

Dealer's Name _____

Address _____

Unit:	Model	_____	Product Identification Number	_____
Engine:	Model	_____	Product Identification Number	_____
Attachment:	Model	_____	Product Identification Number	_____
	Model	_____	Product Identification Number	_____
	Model	_____	Product Identification Number	_____

Using the operator's manual as a guide, instruction was given as indicated by the check marks.

( ) Safety precautions and practice
( ) Lubrication points and schedule
( ) Maintenance areas, adjustments, and schedule
( ) Field adjustments for various crop conditions
( ) Operation
( ) Use of optional equipment
( ) Preseason service
( ) End-of-season service
( ) Proper use of operator's manual
( ) Customer given operator's manual
( ) All safety shielding is installed

Dealer Representative's Signature _____

"I have been instructed in the operation, maintenance, and safety features of this machine as detailed in the operator's manual."

Owner's Signature _____

Service record - 1st 50 hour - Customer copy

CHECK AND ADJUST, AS REQUIRED

1. Perform the 50 hour grease services. ☐
2. Check the knife drive gearbox oil level. ☐
3. Check belt tension. ☐
4. Change the hydraulic oil filter. ☐
5. Check the reel drive chain tension. ☐
6. Lubricate the reel drive chain. ☐
7. Inspect the knife to finger guard clearance. ☐
8. Check the transport wheel torque and tire pressure. ☐

THE INSPECTION HAS BEEN MADE

MACHINE MODEL NO: _____ MACHINE SERIAL NO: _____

OWNER SIGNATURE: _____ DEALER SIGNATURE: _____

DATE: _____ DATE: _____

Service record - 1st 50 hour - Dealer copy

CHECK AND ADJUST, AS REQUIRED

1. Perform the 50 hour grease services. ☐
2. Check the knife drive gearbox oil level. ☐
3. Check the belt tension. ☐
4. Change the hydraulic oil filter. ☐
5. Check the reel drive chain tension. ☐
6. Lubricate the reel drive chain. ☐
7. Inspect the knife to finger guard clearance. ☐
8. Check the transport wheel torque and tire pressure. ☐

THE INSPECTION HAS BEEN MADE

MACHINE MODEL NO: _____ MACHINE SERIAL NO: _____

OWNER SIGNATURE: _____ DEALER SIGNATURE: _____

DATE: _____ DATE: _____

Index

W

Dealer's stamp

CNH Industrial America LLC reserves the right to make improvements in design and changes in specifications at any time without notice and without incurring any obligation to install them on units previously sold. Specifications, descriptions, and illustrative material herein are as accurate as known at time of publication, but are subject to change without notice.

Availability of some models and equipment builds varies according to the country in which the equipment is being used. For exact information about any particular product, please consult your New Holland dealer.

NEW HOLLAND AGRICULTURE